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Central Coast Land and Resource Management Plan

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Central Coast
Land and Resource Management Plan

The Central Coast Protected Area Strategy (PAS) Report

Revised Study Areas for the

Central Coast LRMP Area

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Executive Summary

On July 18, 1996, the provincial government announced that a Land and Resource Management Plan (LRMP) would begin for the Central Coast Plan Area of British Columbia. The Central Coast Plan Area is approximately 4.8 million hectares in size, and extends from Princess Royal Island in the north to southern Johnstone Strait in the south. In a typical LRMP, representative stakeholders, and local governments in the planning area form a 'planning table' along with local staff from key provincial and federal agencies. The planning table participants are tasked with negotiating a set of LRMP products which will provide the basis for recommendations on land allocation and resource use for the plan area. As part of the process, the planning participants discuss which areas should be recommended for protection. Approximately 10.74% of the Central Coast Plan Area land base is currently protected.

In preparation for the Central Coast LRMP, the Land Use Coordination Office (RMD) assembled an inter-agency technical team, the Central Coast Protected Areas Team (CCPAT), to review and revise the original study area list. The original study areas were identified through the Parks and Wilderness program in 1990-92. This review and revision of the original set of study areas, is a standard component of the Protected Areas Strategy (PAS), based on the recognition by government that the goals of PAS are broader than those of the Parks and Wilderness program. At the outset of PAS, it was clearly recognized that B.C.'s existing system of protected areas was not evenly distributed across the broad geographic regions of the province and represented some ecosystems and values better than others. A revision of the original study areas (1992) was needed to achieve a more balanced distribution and representation of ecosystems and to include more examples of the extraordinarily high abundance of provincially to internationally significant features and values found in this part of the province.

In March 1997, Cabinet approved a revised set of study areas recommended by the CCPAT. This report introduces the technical process used by the CCPAT and describes the revised set of study areas provided by the CCPAT as a technical resource to assist the Central Coast LRMP planning participants in making their recommendations for new protected areas in the Central Coast Plan Area.

Although some of the revised study areas include a marine component where high marine values were known to occur, this report does not in any way represent the technical assessment required to adequately address the marine protected areas and marine planning component of the LRMP. The required marine technical assessment will be undertaken separately, as part of the LRMP process.

1.0 Purpose of the Report

This report provides the results of a provincial government technical analysis of protected area values in the Central Coast Plan Area of British Columbia. It presents the revised PAS study areas and the gap analysis methods, criteria, and process used to arrive at them by a government inter-agency team (Central Coast Protected Areas Team). The primary purpose of establishing study areas is to ensure that good candidates for protection are not compromised during the forthcoming Central Coast Land and Resource Management Planning process. Although some of the revised study areas include a marine component, this report does not, in any way, represent the technical assessment required to adequately address the marine protected areas and marine planning component of this plan area.

This report is the result of a technical assessment of the conservation, recreation and cultural heritage values and priorities within the Central Coast Plan Area. It is based on a systematic analysis of "gaps" or deficiencies within the current system of protected areas and an assessment of the short-term social and economic implications of placing areas under study area status. This analysis and assessment provides the basis for Cabinet-approved revisions to the study areas previously established in the plan area during the early 1990s.

The map at the end of this report illustrates the existing protected areas and the revised set of Cabinet-approved study areas (March 1997) within the Central Coast Plan Area. The report will be useful to LRMP participants as they begin to address the issue of whether or not these study areas and other areas should be recommended for protected area status.

2.0 Background

2.1 Protected Areas Strategy Goals and Objectives

In July 1993, the Government of British Columbia established the Protected Areas Strategy for British Columbia (B.C. Government, 1993). The provincial government committed to developing and expanding a protected areas system that would protect 12% of the province by the year 2000. Within the 12% target, the Protected Areas Strategy aims to achieve two goals:

Goal 1 (Representativeness)

To protect viable, representative examples of the natural diversity of the province, representative of the major terrestrial, marine and freshwater ecosystems, the characteristic habitats, hydrology and landforms, and the characteristic backcountry recreational and cultural heritage values of each ecosection.

Goal 2 (Special Features)

To protect the special natural, cultural heritage and recreational features of the province, including rare and endangered species and critical habitats, outstanding or unique botanical, zoological, geological, and paleontological features, outstanding or fragile cultural heritage features, and outstanding recreational features such as trails.

The PAS policy clearly states that "some regions of the province may end up with more or less than 12% in protected areas, due to over-riding provincial objectives or existing land use commitments. In some areas, for example, the opportunity still exists to protect large, dynamic ecosystems such as predator-prey systems and large wilderness areas. Long term protection of these ecosystems requires that they be kept intact. Merely setting aside 12% of an ecosystem would not be adequate in such circumstances." Provincial goals and policies for protected areas are discussed at length in the 1993 provincial government document *A Protected Areas Strategy for British Columbia.*

2.2 Protected Areas Strategy and Land Use Planning

Recommendations to protect areas are usually made through regional and sub-regional land use planning processes (e.g., Land and Resource Management Plans or LRMPs). PAS analysis by government represents one of the many types of information provided to the planning process, and is used as background to deliberation over the most suitable zoning and management of the land base based on consideration of a wide range of values, including public, timber, tourism, agriculture, and mineral values, among others.

3.0 Central Coast Plan Area

3.1 General Description

The Central Coast Plan Area is approximately 4.8 million hectares in size (land and freshwater) and extends from the top of the Princess Royal Island in the north to Southern Johnstone Strait in the south. The boundaries of the Plan Area are not ecologically based, but instead largely correspond (by default) to other administrative and/or land use planning boundaries. For instance, the boundary to the east incorporates a large portion of Tweedsmuir Provincial Park and corresponds with the completed Cariboo-Chilcotin land use plan and Lower Mainland IAMC planning boundaries. The western boundary extends offshore into Queen Charlotte Sound. This boundary is subject to change. The southwestern boundary corresponds to the Vancouver Island land use plan boundary. The northern boundary extends beyond the Mid-Coast Forest District to encompass Princess Royal Island and the adjacent mainland to address the Spirit Bear park proposal and related timber issues (see Figure 2). Its landscape is characterized by an intricate shoreline, coastal plains with a mosaic of wetlands, temperate rainforests, and, large, rugged ice capped mountains dissected by rivers, wide floodplains, fjords and estuaries. The climate is generally very wet and mild, although temperatures ar not always so, especially as one moves inland. The Central Coast has approximately 3,500 permanent residents, most of whom are First Nations (1991 Census).

Coastal temperate rainforests in the Coastal Western Hemlock zone at the low and middle elevations of the Central Coast are replaced by subalpine forests of the Mountain Hemlock, Englemann Spruce - Subalpine Fir and the non-forested Alpine Tundra zones at higher elevations. The eastern portions of the plan area also include sub-boreal and Chilcotin Plateau ecosystems. In the southeast, the ecosystems range from Douglas-fir-dominated forests at lower elevations to subalpine forests and then non-forested alpine areas and galciers. In the northeast, they range from pine-dominated forests of the Montane Spruce to spruce-pine forests of the Sub-boreal Spruce to subalpine forests of the Englemann Spruce-Subalpine Fir to non-forested Aline Tundra. The Douglas-fir areas to the south belong to the IDFww (Interior Douglas Fir) which has affinities to the coast and interior. Glaciers are found on the upper mountain slopes, and in some cases almost reach down to sea level. The productive, low-elevation, old-growth temperate rainforests (CWHvm) support numerous fish and wildlife species, such as salmon and grizzly bears, as well as a highly valuable timber industry. Migratory waterfowl and seabirds make extensive use of the coastal wetlands, estuaries, islands, cliffs, and marine waters. This planning area's coastal landscape and marine environment is unique in Canada and considered to be one of three comparable coastlines in the world. The Inside Passage marine route is world renowned for its spectacular scenery, intriguing history and cultural heritage, sheltered marine travel routes and safe anchorages. Primary recreation and tourism activities in the Central Coast include boating, kayaking, fishing, camping, hunting, wildlife viewing, scenic viewing (e.g., from cruise ships), wilderness hikes and river travel.

3.2 Current Status of Protected Areas and Study Areas

3.2.1 Existing Protected Areas

Currently, 10.74% of the Central Coast Plan Area is protected (excluding marine waters). This percentage includes provincial parks, recreation areas and ecological reserves. Large protected areas in this region include Hakai and Fiordland Recreation Areas[1] and a major portion of Tweedsmuir Provincial Park. Smaller protected areas include such areas as Codville Lagoon Provincial Park, Broughton Archipelago Marine Park, and the Duke of Edinburgh Ecological Reserve.

Of the total existing protected area (excluding marine waters) within the Central Coast Plan Area, 73% occurs in Tweedsmuir Provincial Park and the vast majority (99.34%) occurs in the northern half of the plan area. A large portion of Tweedsmuir is included in the LRMP boundary in order that the Central Coast boundary be contiguous with the boundaries of completed strategic land use plans (e.g. Cariboo-Chilcotin). Tweedsmuir encompasses largely dry, interior ecosystems and therefore is not representative of coastal ecosystems. This leaves significant gaps in representation in the plan area's protected areas relative to the goals of PAS, especially in regard to the representation of productive coastal temperate rainforest ecosystems.

The following table lists the existing protected areas within the Central Coast Plan Area. A map is provided at the end of this report tofurther illustrate the size and location of these areas.

Table 1: Existing Protected Areas within the Central Coast Plan Area.

Name	Status	Size (land and freshwater**) portion within the Central Coast Plan Area
Tweedsmuir	Class A Park	379,514 ha

Fiordland*	Recreation Area*	76,512 ha
Hakai*	Recreation Area*	51,770 ha
Broughton Archipelago	Class A Park	1,976 ha
Kingcome River	Ecological Reserve No. 40	148 ha
Atlatzi River	Ecological Reserve No. 40	261 ha
Duke of Edinburgh	Ecological Reserve No. 120	2 ha
Penrose Island Marine	Class A Park	853 ha
Codville Lagoon Marine	Class A Park	484 ha
Byers/Conroy/Harvey/ Sinnett Islands	Ecological Reserve No. 103	134 ha
Thurston Bay Marine	Class A Park	419 ha
Jackson Narrows Marine	Class A Park	32 ha
Cormorant Channel	Class A Park	216 ha
Green Inlet Marine	Class A Park	9 ha
Kitlope	ELU	380 ha
Sir Alexander Mackenzie	Class A Park	4 ha
Oliver Cove Marine	Class A Park	25 ha
Moore/ McKenny/ Whitmore Islands	Ecological Reserve No. 23	147 ha
Total Existing Protected Area	10.74% of the Central Coast Plan Area	512,886 ha

* Hakai and Fiordland Recreation Areas have outstanding First Nation's issues to be addressed during the LRMP process.

** Freshwater includes lakes, not rivers. Marine waters are excluded.

3.2.2 Original Study Areas (1992)

The two-year public process, "Parks and Wilderness for the 90s" resulted in the original study areas (OSAs) found within the Central Coast Planning Area. In May 1992, government announced this initial list of approved study areas and placed them under Interim Management Guidelines (IMGs). These areas constituted 22% of the Plan Area (see Table 2). With the emergence of the PAS program, government recognized that the goals of the PAS were broader than those of Parks and Wilderness for the 90s program (see Figure 3 for location of the OSAs (1992)).

As a result, the PAS policy directed the RPATs to review and recommend revisions to these OSAs as part of the gap analysis process. The OSAs in the Central Coast Plan Area were made up of predominantly alpine and sub-alpine ecosystems and contained relatively little area with the ecological/conservation, heritage and recreation features and values needed to contribute to meeting PAS goals and objectives for the region. In particular, values such as coastal old-growth forests had not been fully considered.

Table 2: Original Study Areas (1992) within the Central Coast Plan Area.

Name	Original Size (1992)* (portion within Central Coast Planning Region)	Present Status (1997)

Ahnuhati River	19,537 ha	remains Study Area
Ape Lake/ Monarch Glacier	276,028 ha	deleted
Bella Coola/Bella Bella Marine Sites	1,019 ha	revised
Blunden Harbour	443 ha	deleted
Broughton/Cormorant Channel	4,384 ha	portion protected/ portion remains Study Area
Cascade Inlet	138,888 ha	deleted
Coast Mountain/Alplands**	2,899 ha	deleted
Coast Mountain/Mt. Waddington**	4,932 ha	deleted
Kalone Peak/ Dean River	127,739 ha	deleted
Koeye	17,902 ha	remains Study Area
Mt. Waddington/Klinaklini River	397,930 ha	deleted
Thorsen Creek Petroglyphs	9 ha	remains Study Area
Tweedsmuir Additions	4,574 ha	deleted
Penrose Island Marine	853	protected
Smith Sound/ Rivers Inlet Sites	1,231 ha	revised
Sunderland Channel	972 ha	revised

Sites		
Total Original Study Area	1,037,572 ha	21.73% of the Central Coast Plan Area

* Size include land and freshwater only.

** The majority of these OSAs occur in the Cariboo-Chilcotin region and were deleted as a result of the Cariboo-Chilcotin land use plan decision.

3.2.3 Revised Study Areas (1997)

The revised study area list (1997) reduces the amount of official study area from 22% to approximately 7% to bring the percentage of land and freshwater in the Central Coast Plan Area in existing protected area and study area status within the 18% provincial guideline, as required by provincial government policy. As a result, approximately 15% of the Central Coast Plan Area will be released from existing interim management guidelines. The revised study areas (1997) exhibit a more complete representation of ecological/conservation, recreation, and cultural heritage features and values than the OSAs (1992), despite the reduction in the overall percentage. (See Section 5.3 and Appendix IV for ecosection and biogeoclimatic unit representation in existing protected areas, and original study areas).

3.3 Particular Protected Areas Values in the Central Coast

The Central Coast Plan Area contains several largely undisturbed, coastal old-growth wilderness areas which are increasingly rare. In addition to high economic potential (through resource extraction and tourism), these areas have significant environmental and social values. Undeveloped watersheds, old-growth coastal temperate rainforest, grizzly/salmon ecosystems and recreation/tourism opportunities are considered some of the key protected area values for the Central Coast. Overall biodiversity was another key conservation value considered by the CCPAT, and has been considered as part of the assessment of all candidates within the plan area. For example, complete watersheds also protect and represent other aspects of forest ecosystem biodiversity, (i.e. a full range of plant, wildlife and invertebrate species) in addition to grizzly and salmon habitat. Additional internationally significant conservation features and values include fiords, coastal muskeg, seabird, eagle, and falcon systems, and intertidal habitats. See Section 4.3.1 for a more complete listing of provincially-internationally significant features.

3.3.1 Undeveloped Watersheds

The Central Coast Protected Areas Team regarded the identification of undeveloped watersheds a key consideration in the selection of study areas for the Central Coast. As of 1991, there were 508 undeveloped watersheds >5,000 ha in British Columbia. Forty-seven of B.C.'s undeveloped watersheds were totally protected, and 33 were partially protected.

Figure 3: Map of the Original Study Areas (1992)

Within the Central Coast Plan Area, as of 1991, there was one undeveloped watershed >100,000 ha and 52 undeveloped watersheds >5,000 ha (Moore, 1991). As of October 1996, the Iltasyuko River (part of Tweedsmuir Park) remains the only undeveloped watershed >100,000 ha and there are now 45 undeveloped watersheds >5,000 ha within the Central Coast Plan Area (Source: CCPAT analysis).

Socially, undeveloped watersheds are gaining increased public attention as their numbers diminish. Many people have advocated that intact watersheds are important for their wilderness values, and that they often make logical management units. There is also evidence supporting the importance of watersheds in ecosystem processes (Ministry of Forests, 1992). Watersheds are believed to be often the best and most representative ecosystem unit for capturing vegetation, wildlife and fisheries values. The Alpine Tundra (AT), Mountain Hemlock (MH) and Coastal Western Hemlock (CWH) biogeoclimatic zones have the greatest number of undeveloped watersheds (these biogeoclimatic zones predominate the Central Coast). See Figure 4 for a map of undeveloped watersheds remaining in the Central Coast Plan Area.

According to Moore (1991), there are two types of undeveloped watersheds, as follows:

(Note: Both are considered to be substantially intact and undeveloped.)

1.) **pristine watershed** - "a watershed in which there is virtually no evidence of past human or industrial activities. Any past small scale removal of trees - including selective logging of individual trees, small patch cutting or land clearing - is limited to less than 5 ha."

2.) **modified watershed** - "a watershed that has been slightly affected by a limited amount of industrial activity, such as past or recent logging with or without roads, powerlines, pipelines, mining, or settlements. The amount of the watershed affected is less than two percent of its area; or, in the case of watersheds greater than 10, 000 ha, is less than 250 ha."

Tables 3 and 4 list the remaining pristine and modified watersheds found in the Central Coast Plan Area, respectively, at the time of the CCPAT's analysis.

Table 3: Pristine Watersheds in the Central Coast.

Pristine Watersheds		
• Allard Lake • Archie Lake • Carter Lake • Chic Chic Lake • Ellerslie Lake • Four Lakes • Green Lagoon	• Hotsprings • Ingram-Mooto • Kainet Creek* • Kleklane • Kwakwa Creek • Lockhart Gordon • North Klinaklini River*	• Nusash Creek • Poison Cove Creek* • Remote Creek • Sandell River • Skowquiltz • Swallop

* undeveloped watersheds currently protected or partially protected.

Table 4: Modified Watersheds in the Central Coast.

Modified Watersheds		
• Aaltanhash • Ahnuhati River	• Johnston Creek • Jump Across	• Smokehouse Creek • Sutslem

- Ahta
- Atway Kellesse River
- Butedale Lake
- Canoona Lake
- Dallery Creek
- Doos Creek
- Iltasyuko River*

Creek
- Khutze River
- Koeye
- Kwalate
- Lard Creek*
- Mussel River*
- Nascall River

Creek
- Swanson Bay
- Takia River*
- Takush River
- Tenas Lake*
- Turner Lake*
- Waump Creek

* undeveloped watersheds currently protected or partially protected.

Of the remaining pristine watersheds within the Central Coast Plan Area, Hotsprings and Ellerslie Lake are included within the CCPAT Study Area revisions. Smokehouse, Canoona, Koeye, Khutze, Kwalate, Ahta, and Ahnuhati are modified watersheds included within the list of revised study areas (1997).

Almost all remaining undeveloped watersheds are located in the northern half of the planning area (See Figure 4). This is largely due to the fact that the northern portion is more remote and rugged than the southern portion.

3.3.2 Grizzly Bears

Grizzly bears, which were once the most widely distributed bears in the world, are now extinct in much of their former habitat. The number of grizzlies globally, nationally, and provincially have plummeted due to increasing human populations, habitat loss, and human interaction. In 1990, the Committee on the Status of Wildlife in Canada revealed that grizzlies are extinct in 24% of their former habitat in Canada, and that B.C. is home to half of all remaining grizzlies in Canada.

The province announced the Grizzly Bear Conservation Strategy (GBCS) in June 1995. The goals and objectives of the GBCS address the following three major issues: loss and alienation of grizzly habitat: interactions with humans; and, international considerations. The strategy calls for identification and establishment of Grizzly Bear Conservation

Figure 4: Map of Remaining Undeveloped Watersheds in the Central Coast Plan Area.

Areas (GBCAs) to encompass core habitats and linkages that are crucial to maintaining local populations. While GBCAs may overlap with existing or new protected areas, they may also occur in the non-protected portions of the land base. As such, resource development will continue in these areas, however, careful planning will be done to minimize the impact on grizzly bears. Potential candidates for GBCA designation are identified and prioritized according to the following criteria: habitat suitability; proximity to existing or proposed Protected Areas; and, threat to the grizzly populations. Decisions to establish GBCAs will be made through strategic land use planning processes, except regarding grizzly bear hunting seasons. Decisions regarding hunting rest with the Ministry of Environment, Lands, and Parks, in consultation with stakeholders.

The Central Coast's coastal temperate old-growth rainforests are home to many of the province's estimated 10,000-13,000 grizzlies. Several existing protected areas within the Central

Coast Plan Area, such as Tweedsmuir Provincial Park and Fiordland Recreation Area, already serve as secured grizzly habitat. Since grizzlies have an extensive range, very large areas of wilderness help to support a sustainable grizzly population by providing habitat security and reducing mortality risk. Population densities for grizzlies vary from around 5-65 bears per 1000 km^2, with a high degree of variance and differences between numbers of males and females. Adult males cover from 350 km^2 to over 2500 km^2, while females home ranges can be as small as 25 km^2 seasonal productive habitats. Many of the Central Coast's remaining undeveloped watersheds contain highly productive grizzly habitat. Conservation efforts, to be successful, must minimize human displacement of bears, minimize mortality risk and provide genetic linkages across subregions[2]. Providing for the largest carnivore, such as the grizzly bear, helps to ensure that sufficient habitat is available for other species in that ecosystem. The CCPAT examined the suitability of several candidates for protection from the perspective of having key areas managed as core GBCAs. However, linkage across subregions and effective access and habitat managment in the 'matrix' *outside* of the GBCAs is just as essential for population maintenance.

The Ahnuhati Complex, Koeye, Khutze, and Smokehouse Study Areas are rated as the highest priority areas for grizzly bear protection in the Central Coast.

3.3.3 Salmon

British Columbia provides habitat for six species of Pacific salmon - sockeye, pink, chum, coho, chinook, and steelhead trout. In British Columbia, commercial fisheries catch an average of 36 million salmon a year, with a wholesale value of close to $500 million. The commercial fishing industry remains the largest single source of employment for First Nations people in B.C. (Fisheries Branch, B.C. Environment, September 1995).

During their life cycle, salmon reside in streams, lakes, river estuaries and the Pacific Ocean. Salmon require very specific environmental conditions during the freshwater portion of their life cycle. These include clean water, fine and clean gravel, adequate levels of oxygen, a narrow range of water temperature and unobstructed rivers and streams. Salmon populations are exceedingly difficult to report. The 1995 State of the Environment Report for British Columbia reported that 49% of B.C. salmon stocks were stable, 27% were increasing and 24% were in decline (MELP, 1993).

The Central Coast encompasses very important spawning and rearing habitat for salmon in the province. Information from the Department of Fisheries and Oceans database indicates that the total escapement for salmon in the Central Coast planning region from 1984-1994, was close to 52 million while the average annual escapement is approximately 5 million (escapement being the number of fish that are allowed to return to their spawning grounds without being caught) (Booth, July 1996).

Among the revised study areas, the Ahnuhati Complex, Koeye, Khutze, Spirit Bear, Ashlum, Upper Kimsquit, Smokehouse and Dean Corridor contain very high salmon conservation values.

3.3.4 Old-Growth Coastal Temperate Rainforest

British Columbia contains 25% of the world's remaining coastal temperate rainforest. Approximately 47% (6.7 million ha) of coastal British Columbia is covered with old forest: 53% (5.4 million ha) of the Coastal Western Hemlock biogeoclimatic zone, and 34% (1.3 million ha) of the Mountain Hemlock zone (MacKinnon and Eng, 1995).

Old-growth forests mark the final stage of forest development. The productive, low-elevation, old-growth temperate rainforests of the Central Coast (i.e., the area of CWHvm1 and 2) are among the earth's most massive ecosystems. Old-growth temperate forests represent a tremendous accumulation of biomass resulting from: the longevity of individual trees (up to 1000 years of age); their inherent ability to grow large; and, gradual decomposition rates. The substantial aggregation of dead, woody material in old-growth forests fosters the development of complex communities of organisms whose existence depends upon this decomposing material. Many characteristics of old-growth forests, such as large diameter logs and snags, are rarely present in younger forests, particularly those that have been managed for timber production. Old-growth forests are further characterized by a great variety in the size and ages of the trees and patchy, open canopies which enable the understory beneath these gaps to be especially well developed (Pojar & Mackinnon, 1994). Old-growth forests provide habitat for several old-growth dependent species in British Columbia. Fenger and Harcombe (1990) maintain that 8 known species of reptiles and amphibians, 41 bird species, and 31 mammal species appear to require old-growth habitat in British Columbia.

Within the Central Coast Plan Area, study areas with very high old-growth coastal temperate rainforest conservation values include Ahnuhati Complex, Koeye, Smokehouse, Spirit Bear and Khutze.

3.3.5 Recreation & Tourism Opportunities

Tourism is Canada's fastest growing economic sector. It is the second largest industry in British Columbia and generated over $7.7 billion in revenues in 1996. Over 219,000 British Columbians work in businesses serving tourists and community residents. One in eight jobs in B.C. is tourism-related (Tourism B.C., 1996). Nature and adventure tourism are the fastest growing forms of tourism in the world, with over $25 (US) billion dollars being spent on these ventures, globally, each year (Ministry of Environment, Lands and Parks, Planning and Assessment, 1989). Wilderness adventure travel is the tourist sector with the greatest potential for sustainable regional development on the Central Coast, as long as that resource base is sustained.

Some members of the tourism industry consider protected and special management areas as essential for creating a foundation of certainty for investment and growth of this industry. The key to the growth of tourism and recreation is the protection of the resources upon which they depend. Scenery, primarily mountain vistas and coastlines, has been shown by countless studies to be the primary attraction for tourists to British Columbia. The Central Coast has a rich abundance of the landscapes and wildlife that are extremely valuable to the tourism industry. Recreation and tourism interests want to ensure that secure anchorages, on-shore recreation opportunities near anchorages, high-quality visual experiences, and saltwater fishing opportunities continue for the Central Coast. Important cultural heritage and archaeological sites, as well as recreation and conservation sites, are found throughout the Central Coast (Whitbread, 1996).

The Broughton Extension and Cape Caution Study Areas are considered two of the CCPAT's top recreation/tourism priority areas for the Central Coast Plan Area. Both also have significant conservation values. The Broughton group of islands has seen enormous growth in recreation/tourism use in recent years, and that trend is expected to continue. Several of the new small study areas have high recreation values based on the biophysical features they encompass and safe anchorage and onshore recreation opportunities they often provide, especially along the Inside Passage. Among these new study areas are Boat Bay, Cullen Harbour, Burdwood Group, Fougner Bay, Forward Harbour, Oliver Cove, Rescue Bay, Takush Harbour, Goat Cove, Grant Anchorage, Thurston Bay Extension, and Troup Passage.

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4. Identifying and Evaluating Study Areas

A standard component of the Protected Areas Strategy is to review and revise the original set of study areas based on a recognition by government that the goals of PAS were broader than those of the Parks and Wilderness for the 90's. As stated earlier, the original study areas in the Central Coast were predominantly alpine and sub-alpine (see Section 3.2.2). They contained relatively little area with the ecological/conservation, heritage and recreation features and values needed to meet the full range of PAS objectives in the region. The following technical process was used by the Central Coast Protected Areas Team to identify new areas which better fulfilled the goals of PAS.

4.1 The Technical Process

4.1.1 Overview

The Regional Protected Areas Teams (RPATs) are inter-agency teams of technical experts that are responsible for conducting gap analysis for the PAS (see Section 4.2). The Central Coast Protected Areas Team (CCPAT) contained members from the Resource Management (RMD) and the Ministries of Forests; Agriculture, Fisheries and Food; Small Business, Tourism and Culture; and Environment Lands and Parks. The CCPAT was responsible for identifying and evaluating areas of interest, in order to make recommendations on a revised list of study areas for the Central Coast Plan Area within an 18% limit of land in existing protected area and study area status.

There are five key steps involved in the technical process of identifying and evaluating areas for their suitability as study areas. Steps 1 to 3 are often referred to as "gap analysis" and were used to describe the representative and special features found in each ecosection of the Central Coast and to identify and evaluate areas to fill gaps in the existing system of protected areas.

Step 1: ***Describe Ecosections***

- Describe representative areas and special features characteristic of each ecosection.
- Identify ecosystem issues and values.

Step 2: ***Identify Gaps and Areas of Interest to Fill Them***

- Identify gaps by comparing features and values captured in existing protected areas with those of the ecosection as a whole.
- Use PAS criteria to identify and map areas of interest to fill gaps in representation (Goal 1) and/or special features (Goal 2).

Step 3: ***Evaluate Area of Interest***

- Use PAS criteria to evaluate and rate areas as to their significance for the protected areas system (e.g., high, medium, low).

Step 4: ***Identify Short Term Social and Economic Implications of each Proposed Area***

- Agencies assess short-term impacts of placing proposals under interim management guidelines on economic activity and employment.

Step 5: ***Recommend Revised Study Areas***

- Regional Protected Area Teams recommend a set of revised study areas for Cabinet approval.

4.2 Gap Analysis Procedures

Gap analysis is a systematic approach to identifying key gaps in existing protected areas representation and to identify and evaluate proposed Areas of Interest to determine which ones best fill those gaps. Standard procedures for gap analysis are documented in the *Gap Analysis Workbook for Regional Protected Areas Teams (June 1993).*

There are three components to the gap analysis: conservation, recreation and cultural heritage. Working groups of the CCPAT were formed to carry out the gap analysis for the conservation and recreation streams. Due to limited resources, the cultural heritage stream was not addressed separately. Instead, known high value heritage features were identified and incorporated where possible. Once the analysis had been completed for each stream the CCPAT combined them into an overall assessment (see

Section 4.3 for more details). The following sections document the methods and criteria by stream.

4.2.1 Conservation Gap Analysis

4.2.1.1 Representation Framework

The PAS establishes the concept of ecosystem representation as the fundamental premise guiding the identification and evaluation of new protected areas. A mapped ecological framework has been adopted for the purpose of quantitatively evaluating how well existing protected areas capture the range of ecosystem types province-wide. This same framework was used in determining ecological gaps within the Central Coast. It combines two separate ecological classification systems to subdivide the province; the Ecoregion Classification System (Demarchi et al., 1990) and the Biogeoclimatic Ecosystem Classification (Meidinger and Pojar, 1991). The ecoregion classification system, based primarily on landforms and climate, is used to stratify the province into broad geographic units nested in a hierarchy of 10 ecoprovinces, 43 ecoregions and 110 ecosections. The biogeoclimatic classification divides the landscape into ecological map units based primarily on climate, soil and vegetation. British Columbia has 14 zones, usually characterized by 1 or more dominant tree species. Zones are further subdivided into subzones and variants. This classification applies only to the terrestrial components of the planning region. An equivalent Marine Ecosystem Classification system is currently under development.

The Central Coast Plan Area is located primarily within the Coast and Mountain Ecoprovince, but does capture a small portion of the Central Interior Ecoprovince. The Coast and Mountain Ecoprovince holds the second highest number of birds in British Columbia, supporting 79% of all species known to occur in the province (Demarchi, 1991). The coastal wetlands, nearshore and offshore habitats, islands, islets and cliffs are extensively used by waterfowl. Bald eagles, peregrine falcons, black and grizzly bears, mountain goats, otters, salmon, sea lions, and killer whales are but a few of the species that inhabit the Central Coast. The Coast and Mountain Ecoprovince is divided into eleven Ecoregions containing a total of 21 Ecosections. The Central Coast contains 2 of these Ecoregions (the Coastal Gap and the Pacific Ranges) and 10 Ecosections occur within the Central Coast Plan Area boundary. The Hecate Lowland (HEL), the Kitimat Ranges (KIR), the Northern Pacific Ranges (NPR), the Queen Charlotte Strait (QST) and the Outer Fiordland (OUF) are the 5 major ecosections that occur primarily within the Central Coast Plan Area, and were the focus of the CCPAT's analysis (see Figure 5). Further information on the Ecosection and Biogeoclimatic framework can be found in Appendix II.

The basis for the conservation gap analysis is the ecosection description which provides a baseline inventory of the biophysical features of the landscape. The CCPAT described each ecosection according to its physiography, geology, hydrology, biogeoclimatic zone and subzones, broad habitat classes, characteristic fish and wildlife species, and special features.

Gaps in ecosection representation were identified by comparing the features found in existing protected areas to those of the ecosection in which they were located. Some gaps are more critical to fill than others. For example, some habitats, biogeoclimatic units, and features are less widely distributed (rare) and others are more disturbed (threatened). Since formal inventories are incomplete in this region, local knowledge was utilized for many of the assessments.

Once the conservation gaps were identified, the original study areas (1992) and areas of interest were described and assessed according to the following criteria:

- Naturalness - The extent to which the area is unaffected by human development and disturbance (areas with greater than 25% disturbance were not accepted for further evaluation);
- Representativeness - The extent to which the area represents the biophysical features of the ecosection, especially its ability to adequately capture the full range of biogeoclimatic units;
- Diversity - The richness of the area in terms of its range of biological and physical characteristics, compared to the ecosection overall;
- Viability - The ability of the area and its values to be maintained in perpetuity. Key considerations include size, shape, adjacency, and watershed integrity;

Figure 5: Ecosections of the Central Coast Plan Area.

- Vulnerability - The risk of permanent loss of a biophysical element or feature if the area is not protected (e.g. critical habitat for rare or endangered species); and,
- Significance - The rating of the area's or its feature's rarity, scarcity or uniqueness on a provincial, national or global scale.

The CCPAT's top priority Goal 1 study areas for ecosystem representation for the Central Coast include; Duke of

Edinburgh Extension and Deserters and Walker Group (Queen Charlotte Strait), Khutze (Kitimat Ranges), Smokehouse and Ahnuhati Complex (Northern Pacific Ranges), and Koeye and Spirit Bear (Hecate Lowland). Other Goal 2 study areas, selected in part for their ability to fill conservation gaps, are found in Appendix VI, "Primarily Conservation".

4.2.2 Recreation Gap Analysis

The *Tourism Resource Inventory* was a key information tool used in defining and analyzing potential sites, along with the *Recreation Opportunities Spectrum*, *Recreation Features Inventory*, cultural heritage studies, assessments and inventories, and local/expert knowledge. The Central Coast Plan Area consists of two broad types of recreation experiences; coastal and uplands. For the purposes of identifying Areas of Interest for the Central Coast, the plan area was further sub-divided into four sub-regions:

The **Midcoast Zone**: the coastal portion of the Mid-Coast Forest District. It is characterized by low-lying rugged shorelines on the outer coasts and steep-sided fjords penetrating deep inland.

The **Cape to Cape Zone:** stretching from Cape Caution in the north to Cracroft Point at the narrowing of Johnstone Strait. While it shares many biogeoclimatic characteristics with the Midcoast Zone, it has the advantage of better accessibility due to its proximity to the northern Vancouver Island ports.

The **Straight Islands Zone:** the southern-most of the coastal zones, reaching from Cracroft Point down to Bute Inlet. Its physical characteristics include less shoreline variety and generally steeper shorelines.

The **Inland Ice Zone:** reaches into the Kitimat and Coast Ranges, and is typically higher-elevation with glacially-carved river valleys.

The analysis considered each zone's:

- physical and recreational characteristics;
- opportunities for recreation use and appreciation;
- recreation management priorities;
- key recreation settings; and,
- key recreation values and potential.

Overall, the principle concerns for providing good recreation/tourism experiences in the Central Coast include:

- provision of secure anchorages;
- provision of on-shore recreation opportunities near anchorages;
- provision of high quality visual experiences; and,
- provision of high-success saltwater fishing opportunities.

Gaps in representation were identified by assessing the values inherent in existing Protected Areas relative to those of each zone. Area of Interest identification and evaluation was largely based on the area's uniqueness, threat to loss of value, significance to existing programs and plans, and efficient delivery of service.

Revised study areas selected mainly for their ability to fill recreation gaps are described in Appendix VI, "Primarily Recreation".

4.2.3 Cultural Heritage Gap Analysis

The CCPAT attempted to identify both First Nations cultural heritage values and features and post-contact areas of historical significance. Cultural heritage information documented for the PAS to date is limited for both First Nations and post-contact settlement history, particularly as it relates to First Nations' cultural values. The cultural heritage information presented in this report is therefore cursory and is based upon the collective knowledge of CCPAT members and local government staff. The LRMP process is expected to identify additional cultural heritage information for consideration. In the absence of a detailed analysis, the CCPAT only identified known high value heritage features. The CCPAT is keenly aware that First Nations are best able to determine which First Nations' cultural features are most appropriate for protection.

Revised Study Areas which capture known high value cultural heritage features include Port John Archaeological Site, Ellerslie Lake/Harbours, Koeye, Spirit Bear, Thorsen Creek, Restoration Bay, Carter Bay, and Yorke Island.

4.2.4 Goal 2 (Special Features) Analysis

Special features are biophysical or physical elements which are rare, scarce or unique. While many of these elements may have been captured within the study areas resulting from the "coarse-filter" gap analysis for Goal 1, a more focused, albeit preliminary, "fine-filter" gap analysis (Goal 2) was carried out to address a range of special conservation, recreation and cultural heritage features.

Special feature areas are generally small (i.e., less than 1,000 hectares of land), however, some special features require several thousand hectares to be adequately represented or protected. Special features are generally identified from inventories of the following kinds of elements:

- rare biophysical elements (e.g. species, sub-species, populations and habitats);
- biologically exceptional sites (e.g. important seasonal or migratory breeding, feeding, resting, or wintering habitats);
- physically exceptional sites (e.g. unique landform, physical or hydrological features);
- paleontological resources (e.g. fossils)
- provincially rare, scarce or unique recreation features (e.g. safe anchorages, hotsprings);
- areas that meet demand for recreational opportunities (e.g. travel corridor sites, fishing streams and lakes); and,
- important cultural heritage structures, traditional use sites or archaeological sites.

The degree to which a special feature area was evaluated as 'special', and thereby warranted further consideration under PAS, was based on the following criteria:

- Rarity, scarcity, and uniqueness (provincial to international significance);
- Viability;
- Vulnerability and
- Quality.

Summary tables for Goal 2 (special feature) study areas are provided in Appendix VI.

4.3 Ranking Areas of Interest

Once all areas of interest for each of the three components had been assessed, the CCPAT ranked the areas for their combined significance. Areas of interest which ranked highly in one or more of the three areas of gap analysis were ranked higher than those that did not. The initial set of areas of interest far exceeded the amount of area that could be placed into study area status. The CCPAT further prioritized and ranked areas of interest using the presence of provincially to internationally significant features.

4.3.1 Provincially - Internationally Significant Features

To assist in setting priorities among potential study areas, the CCPAT identified a list of provincially - internationally significant conservation, recreation and cultural heritage features in the Central Coast. The provincially - internationally significant features in this region include:

GOAL 1 (Representation)

· grizzly bear concentrations
·salmonids - large populations
· coastal temperate old forests
· coastal cedar-pine wetlands/coastal muskeg (especially the sloping bog complex)
· intertidal habitats

· long, deep fiords
· large, unregulated rivers
· kelp beds
· marine corridors/routes, anchorages
· major navigable wilderness river corridors

- alluvial sitka spruce
- deep fiord and cryptodepression lakes
- marbled murrelet nesting
- seabird habitat
- seabird/eagle/falcon systems

- coastal/ocean kayaking
- sportfishing opportunities
- beaches - fine textured
- marine life, and marine island groups
- Kermode bear

GOAL 2 (Special Features)

- lagoons
- sheltered marine
- estuaries
- hotsprings
- endemic vascular plants
- coastal rare plant communities
- migratory bird stops
- coastal bald eagle/peregrine nesting
- bald eagle wintering concentrations

- unique bull trout, rainbow, steelhead, cutthroat, dolly varden and char stocks
- fossils
- Euchalon routes
- safe anchorages
- marine corridors/routes
- pictographs and petroglyphs
- First Nations heritage sites
- archaeological sites
- sandy beaches - fine textured

Potential study areas that contained high quality examples of these features were given a higher priority than those that did not. The provincially to internationally significant features found in the revised study areas are documented in the study area descriptions (see Appendix V, VI and VII).

4.4 Identification of Short-Term Socio-Economic Implications

Prior to finalizing the set of study area recommendations and specific boundaries for each area, the CCPAT assessed existing land use in order to identify short term socio-economic implications of establishing a study area. CCPAT completed land status checks on each study area to identify existing tenures, such as private land and log handling/storage sites. All study area boundaries were reviewed and revised to exclude private land, Indian reserves, and private leases and licenses. These exclusions have been documented in the study area descriptions (see Appendix IV and V).However, the process of converting cadastral boundaries into TRIM data results in a small margin of error for exact boundaries of existing tenures. Any errors in this regard are unintentional and will be corrected as identified. Where such sites were not located on the periphery of the area, and therefore not easily excluded through a boundary adjustment, they were identified and mapped as exclusions within the study area. Any private land, Indian Reserves, and/or private leases or licenses that are not excluded is an unintentional oversight and will be corrected where found during the LRMP process.

The CCPAT also reviewed short-term impacts of placing an area under interim management guidelines (IMGs) on mineral development, timber harvesting and aquaculture (see Section 4.6). Even though mineral exploration is allowed on active existing tenures within study areas, there are concerns about the effect of study area designations on mineral interests. This uncertainty precipitated the revision of some boundaries to exclude active mineral tenures wherever this did not compromise the key values for which the study area was selected. Khutze is the only study area that contains existing mineral tenures.

4.5 Recommended Revisions to Study Areas

Prior to finalizing a set of study area recommendations, further reductions and/or changes to the set were made based on short term socio-economic implications of establishing study areas. Ultimately, additional trade-offs, both socio-economic and political were made during the Cabinet approval stage for the recommendations.

Recommended revisions to the original study area (1992) list were approved by Cabinet in March 1997 (see Section 5). As a result of the revisions to the original set of study areas, the total amount of land base under study area status in the plan area decreased from 22% to approximately 7%. The areas removed from Study Area status are now available for resource development (subject to normal agency approval), and include Cascade Inlet, most of Kalone Peak/Dean River, Ape Lake/Monarch Glacier, Mt. Waddington/Klinaklini River, Snootli Peak, Gunboat Passage, Blunden Harbour, and Home Bay.

4.6 Interim Management of Study Areas

The new set of study areas are subject to interim management guidelines (see Table 5). These guidelines provide short-term protection for the key values within these areas until the completion of the Central Coast LRMP. New logging, roads, sale of Crown land, and new mineral claim-staking and tenures will not occur in Study Areas during the planning process.

Table 5: Interim Management Guidelines for Approved Study Areas.

Legislation	Level A Guidelines
Forest Act	• No roads, no harvesting. • Fire and pest

	management to continue.
Mineral Tenure Act *Mines Act*	- No new tenures. - Enhanced referrals* for proposed work on existing tenures.
Petroleum and Natural Gas Act *Goethermal Act*	- No new tenures. - Enhanced referral* for proposed work on existing tenures and in the vicinity of existing tenures. - Geophysical exploration may be required outside tenure locations to delineate drilling locations on existing tenures.
Land Act *Range Act* *Wildlife Act* *Fisheries Act*	- No new tenures subject to enhanced referral* through regional Inter-agency Management Committees and future study area findings or recommendations. - Existing tenures honoured, but any changes referred to Inter-agency Management Committees.
Water Act *Waste Act*	- Applications accepted and processed, with issuance subject to Inter-

	agency-Management Committees' approval.
Municipal Act	- Cooperation of local governments to be sought to protect features and values on private lands.

*Referral - coordinated inter-agency review of applications for tenure and management activities.

5. Revised Study Areas

5.1 Results - Goal 1 (Representation)

As mentioned earlier, 10.74% of the Central Coast Plan Area is already protected. However, the majority of current protected area (73%) is in Tweedsmuir Provincial Park and 99% occurs in the northern portion of the Central Coast Plan Area and this area is not representative of coastal values. As a result, there were major gaps in representation. The Cabinet-approved revised study areas (1997) increase representation significantly in the five predominant terrestrial ecosections and capture many significant marine and coastal features within the Central Coast Plan Area.

Ecosection representation provides a simplified model of the gap analysis, and may miss specific ecosystems and/or provincially-internationally values such as critical wildlife habitat. Several of the new study areas are identified to fill gaps which are not apparent by looking at ecosection representation alone. These study areas if selected for protection, would increase representation levels in some ecosections which would otherwise appear to be well-represented based on percentages alone (e.g., the Kitimat Ranges Ecosection). For example:

- The Spirit Bear Study Area was selected primarily to provide interim protection of habitat for the white Kermode bear and to capture representation in the Hecate Lowland Ecosection. In order to identify a logical and viable boundary, based on watersheds, the area extends into the adjacent Kitimat Ranges (KIR), which is already well-represented on an ecosection basis.

- The Khutze watershed is a large, intact primary watershed with very high ecological values. Khutze has a very large and significant estuary, coastal temperate rainforests, large marbled murrelet concentrations, and is considered very important grizzly, salmon, and waterfowl habitat. Although the KIR has few remaining gaps, due to a high percentage of existing protected area, the extremely high provincially to internationally significant conservation values in the Khutze, accounts for its further consideration for protected area status.

- The Ellerslie Lake/Harbours area contains many provincially to internationally significant features including safe anchorages, falls, pictographs, a cryptodepression/fiord lake, and old growth forest. The Ellerslie system has very high recreation values and significant cultural value for the Heiltsuk First Nation. The Ellerslie Lake/Harbours system also provides for ecological connectivity with Fiordland Recreation Area.

- The Dean Corridor, in the Kitimat Ranges, is considered an important linkage area for grizzly bear and salmon ecosystem representation and represents the only Class 1 river on the Central Coast. Dean Corridor also represents an interior-coastal link[3].

- The Upper Kimsquit Study Area represents unique grizzly/sockeye salmon features found nowhere else in the province. Upper Kimsquit is a low elevation pass to Kitlope drainage, and is easily traversed by bears, goats and moose. It is a valuable wildlife linkage area. The area also has very high seasonal bald eagle concentrations, and is one of the few coastal drainages supporting resident coastal moose populations.[3]

Additional, highly significant Goal 1 Study Areas include the Ahnuhati Complex, Koeye, Smokehouse, Cape Caution, Ashlum-Reeve-Upper Inziana, Broughton Extension, Deserters and Walkers Group, Duke of Edinburgh Extension, and Hotsprings. These occur in less represented ecosections. *For example;*

- The Ahnuhati Complex is the #1 priority for the representation of the Northern Pacific Ranges Ecosection, and is rated as the #1 CCPAT priority area for grizzly bear/salmon ecosystems in the entire Central Coast Plan Area (see Appendix III). It has an overall very high conservation value.

- The Koeye is rated the CCPAT's #1 priority for ecological representation of the Hecate Lowland Ecosection in the planning region (see Appendix III). The Koeye provides critical habitat for grizzly bear, salmon, and several red and blue-listed waterfowl, and contains unusually productive old-growth, coastal temperate rainforest.

The total amount of revised study areas and existing protected areas in the NPR and OUF is relatively low due to the lack of suitable candidates resulting from past resource development. The areas proposed in the NPR and OUF are particularly essential to provide some minimum level of representation of these ecosections. The under-representation of these ecosections has provided some additional area to address high priority PAS opportunities in other, better represented ecosections within the plan area. Summary tables for Goal 1 Study Areas are provided, by ecosection, in Appendix III. Detailed description, a photo and map for each area are provided in Appendix V.

5.2 Results - Goal 2 (Special Feature)

Special features are biological and physical elements which are considered rare, scarce or unique, provincially or internationally (see Section 4.2.4) While many of these elements were captured by Goal 1 study areas, several additional smaller areas were selected through the Goal 2 gap analysis process to cover a full range of special features. The following list describes the special feature characteristics which predominate the revised Goal 2 study areas:

Safe Anchorages, Marine Corridors/Routes, and Sheltered Marine - Several Goal 2 study areas were primarily selected based on their ability to enhance recreational opportunities and tourism in British Columbia, by providing safe marine passage and anchorages for boaters (e.g., Barnard Harbour, Rescue Bay, Goat Cove, Fougner Bay, Takush Harbour, Eucott Bay, etc.).

Estuaries and Wetlands - Estuaries occupy a tiny portion of the study area. Thus, they are rare ecosystems. In addition, they provide important waterfowl habitat, and are often used by red and blue-listed bird species on the Central Coast. All species of salmon spend some time in estuaries as they enter and leave the river systems. Chinook and chum fry are known to spend considerable time there before they move seaward. There are several estuaries and wetlands included in the revised study area package including the Kimsquit, Skowquiltz, Kingcome, Nekite, Stafford, Quatlena, Phillips, and Bentinck Estuaries and the Genessee and Neechantz/Machmell Wetlands.

First Nations' Heritage Sites, and Archaeological Sites - Cultural heritage special features were considered a key consideration in Goal 2 study area selection. Port John Archaeological Site and Thorsen Creek are two examples of Goal 2 areas which contain archaeological sites, including pictographs, and petroglyphs and represent important First Nations values.

Marine Conservation - Major marine conservation features such as rich intertidal life, sea otter concentrations, critical seabird feeding concentration areas, large sea lion haul-outs, internationally significant populations of seabirds and cetaceans, and sea otter concentrations were also considered a high priority in selecting Goal 2 study areas.

5.3 Summary Statistics

Table 6 compares the amount of existing protected area and the revised study area by Ecosection. See Figure 6 for a map of the percentage of ecosections protected. Table 7 compares the amount of existing protected area and revised study area by northern and southern plan area. See Figure 2 for a map of the northern and southern boundaries.

Table 6: Protected Area and Revised Study Area by Entire Ecosection.

Ecosection	Size of Ecosection*	Existing Protected Area*	% Existing Protected Area*	Revised Study Area*	Existing PA and Revised Study Area*	% Existing PA and Revised Study Area*
Hecate Lowland	1,524,906 ha	61,370 ha	3.98%	75,125 ha	136,495 ha	8.95%
Kitimat Ranges	3,503,196 ha	646,635 ha	18.46%	112,624 ha	759,086 ha	21.67%
Northern Pacific Ranges	3,141,231 ha	68,002 ha	2.16%	125,808 ha	193,811 ha	6.17%
Outer Fiordland	437,118 ha	9,762 ha	2.23%	6,268 ha	16,030 ha	3.67%
Queen Charlotte Strait	23,198 ha	816 ha	3.52%	1,039 ha	1,855 ha	8.00%

* All sizes include land and freshwater only.

** The Queen Charlotte Sound, Nechako Upland, Nazko Upland, Western Chilcotin Upland, and Western Chilcotin Ranges are not included here because only minor portions occur within the Central Coast Plan Area.

Table 7: Total Existing PA, Original SA, and Revised SA by Northern and Southern Plan Area.

Planning	Size of	Existing	%	Original	%	%	

Area	Planning Area*	Protected Area (PA)	Existing PA	Study Area (1992)	Original Study Area	Existing PAS and OSA	
North Central Coast	3,085,991 ha	509,920 ha	16.52%	603,870 ha		19.57%	36.09%
South Central Coast	1,689,226 ha	2,966 ha	.17%	435,067 ha		25.75%	25.93%
North and South Central Coast	4,775,217 ha	512,886 ha	10.74%	1,038,973 ha		21.76%	32.50%

* All sizes include land and freshwater only.

Planning Area	Revised Study Area (1997)	%Revised Study Area	Existing PA and Revised Study Area	% Existing PA and Revised Study Area
North Central Coast	207,549 ha	6.73%	717,496 ha	23.25%
South Central Coast	112,435 ha	6.66%	115,582 ha	13.19%
North and South Central	319,390 ha	6.70%	833,050 ha	17.45%

Coast					

The ecosection and biogeoclimatic unit representation provided by the original study areas, protected areas, and revised study areas are shown in the tables found in Appendix IV.

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6. Additional Considerations

6.1 First Nations

The Government of British Columbia acknowledges and respects First Nations treaty rights and Aboriginal rights in British Columbia. Interim management guidelines will not prevent First Nations from exercising aboriginal rights and using the land and resources for sustenance food, social and ceremonial purposes (including hunting and fishing). The practice of these rights may be regulated due to conservation or public safety considerations. If land designated as a park or protected area is transferred to a First Nation as a result of treaty negotiation, for purposes inconsistent with its continuation as a protected area, then other protected areas may be designated to maintain the provincial 12%. If a First Nation maintains land as a protected area, the area will continue to contribute to the 12% provincial target.

6.2 Recreation Areas

Existing legislation permits mineral exploration and evaluation activities within Recreation Areas, under the *Park Act* and *Mineral Tenures Act,* respectively. As per the government's Protected Areas Strategy policy, recreation areas are to be assessed by the Ministry of Employment and Investment (Energy and Minerals Division) for their subsurface resource potential. In cases where potential is assessed as "low", the area is normally upgraded to fully protected status (e.g. Class A Provincial Parks). There are two Recreation Areas in the Central Coast Plan Area which need to be addressed: Hakai and Fiordland. Although mineral potential has already been rated low in these areas, government has agreed to resolve the status of these two areas as part of the LRMP process, due to outstanding First Nations issues.

6.3 Additional Areas with High PAS Values

Several high-ranking areas of interest were not approved as study areas due to size constraints on the amount of area in the Central Coast Plan Area allowed under study area and existing protected area (i.e., 18%) and/or the significance of short-term resource development impacts/issues. These areas of interest include such sites as the Ingram-Mooto, Waump, Lockhart-Gordon, Piper, Johnston, Upper Stafford, and Green watersheds. Future land use for these areas will be further addressed through the Central Coast LRMP process. These areas, and others identified by plan participants, may be considered as potential protected areas, or as strong candidates for special resource management as a means of addressing their unique values.

Figure 6: Percentage of Ecosections Protected.

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[1] For the purposes of analysis, the Hakai and Fiordland Recreation Areas are considered as protected areas. Their status will be reviewed as part of the LRMP process.

[2] Historically, forest development in Coastal British Columbia had five major impacts on grizzly bears: 1) increased human access resulting in higher kill; 2) inadequate garbage management resulting in high kill; 3) loss of habitat suitability resulting from high rates of clear-cut logging on valley bottoms and lower slopes (followed by various silviculture techniques designed to quickly restock the site to commercial conifers); 4) alteration, fragmentation or direct loss of critical habitat; and 5) alienation of bears from preferred habitat by human activity (e.g. traffic, machine noise). Much of the human settlement and resource use along the B.C. coast is concentrated in linear corridors along high capability river valleys. Bears entering larger corridors are at high risk, potentially leading to relative isolation of populations on either side of the corridor. Although hunter

harvests and problem kills do not appear to be a significant threat at first examination, the kill has been area-concentrated. Current coastal logging and silviculture practices modify grizzly bear habitat capability and contribute to reduced population densities through increased access, inadequate garbage management, and alienation and alteration of habitat. Protected Areas are therefore only a part of an overall conservation and management plan for coastal grizzly bears.

[3] The Dean Corridor and Upper Kimsquit study areas were primarily selected and designed to focus on the nationally-internationally significant protected area values they contain. They do not fit neatly into either the Goal 1 or Goal 2 categories, but due to their size, extent and significance, they have been grouped with the other Goal 1 study areas.

[4] References for information on coastal wetlands include: Hunter et al., 1985,Remington, 1993,McKim-Fletcher, 1992,Leaney and Morris, 1981.

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APPENDIX I: GLOSSARY OF TERMS AND ACRONYMS

AOI

Area of Interest - All protected area proposals advanced by the public and agencies for consideration by PAS.

Biogeoclimatic Classification System

A system of ecological classification based primarily on climate, soils and vegetation that divides the province into ecological units (zones, subzones, and variants) and describes the ecosystems within them. For further clarification, see Section 3.3.

Blue List

A provincial list which contains species considered sensitive or vulnerable and potentially at risk, but not yet threatened. Vulnerable species are of special concern because of characteristics that make them particularly sensitive to human activities or natural events.

CCPAT

Central Coast Protected Areas Team

Cryptodepression Lake

Lakes whose bottoms fall below sea level.

Ecoregion Classification System

A system of ecological classification based primarily on landform and climate that divides the province into large physiographic units, including ecoprovinces, ecoregions and ecosections.

IAMC

Inter-Agency Management Committee

IR

Indian Reserve

LoO

License of Occupation - A contractual right whereby the holder (the Licensee) has the right to enter upon and use for some specific purpose, the property of the Licensor without which the occupier would be in trespass.

MAFF

Ministry of Agriculture, Fisheries and Foods

Map Reserve (Section 12)

Temporarily withdrawal of land from disposition. May be used to support land planning or market development. May be used by another Ministry for a specific purpose. No applications are entertained within the reserve.

Map Reserve (Section 13)

Temporarily withdrawals land from disposition except for designated uses and compatible uses. Other applications may be entertained within the reserve.

MELP

Ministry of Environment, Lands and Parks

MOF

Ministry of Forests

MSBTC

Ministry of Small Business, Tourism and Culture

NoI

Notation of Interest - A recording on Ministry reference maps of an interest in land by another provincial ministry or agency. It is not a reserve, withdrawal or designation under the Land Act and does not preclude acceptance of land applications or dispositions of land.

OSA

Original Study Area - selected in 1992 as a result of the "Parks and Wilderness for the 90's" program.

Red List

A provincial list that contains species considered endangered or threatened because of low abundance and the possibility of extirpation or extinction. Extirpated species no longer exist in the wild in British Columbia, but do occur elsewhere.

Right of Way (R/W)

The legal passage over land.

UREP

A map reserve or notation of interest for the Use and Recreational Enjoyment of the Public.

APPENDIX II: ECOLOGICAL FRAMEWORK FOR THE CENTRAL COAST

The combination of the Ecoregion Classification System (Demarchi et al., 1990) and the Biogeoclimatic Ecosystem Classification (Meidinger and Pojar, 1991) has proven to be useful as both an analytical and reporting tool. The Ecoregion Classification of British Columbia is a hierarchical system as follows:

1. Ecodomain - an area of broad climatic uniformity
1. Ecodivision - an area of broad climatic and physiographic uniformity
1. Ecoprovince - an area with consistent climate or oceanography, relief and plate tectonics
1. Ecoregion - an area with major physiographic and minor microclimatic or oceanographic variation
1. Ecosection - an area with minor physiographic and macroclimatic or oceanographic variation

British Columbia consists of 4 Ecodomains, 7 Ecodivisions, 10 Ecoprovinces, 43 Ecoregions, and 110 Ecosections. The use of Ecoregions and Ecosections, alone, is insufficient to describe the ecological diversity in a mountainous province like British Columbia, where alpine, sub-alpine and low elevation ecosystems commonly exist together within an Ecosection.

To separate these ecosystems within an ecosection, the second classification system - the biogeoclimatic system - is used. The contribution made by each study area to any biogeoclimatic unit gap within a given Ecosection is listed within the study area descriptions. A code is used to indicate which biogeoclimatic subzone and variant is represented. The code contains the following elements:

```
CWHvml-->variant
 |    \
zone  subzone
```

(Source: Meidinger and Pojar 1991)

- **Zones**-usually consist of one or more of the dominant climax tree species in the zonal ecosystems with a geographic or climatic modifier (e.g., CWH-Coastal Western Hemlock). The Central Coast contains 8 biogeoclimatic zones.

- **Alpine Tundra (AT)** - occurs at high mountain elevations throughout the province, but is concentrated along the coastal mountains and in the northern and south-eastern regions. The alpine climate is cold, windy, and snowy, and characterized by low growing season temperatures and a very short frost-free period.

- **Coastal Western Hemlock (CWH)** - occurs at low- to mid- elevations, mostly west of the height of land coastal mountains, along the entire British Columbia coast. The CWH is, on average, the rainiest biogeoclimatic zone in British Columbia, however, certain subzones, such as the CWHds, have dry, hot periods in the summer. This zone typically has cool summers and mild winters.

- **Mountain Hemlock (MH)** - contains the subalpine elevations of the coastal mountains. The coastal subalpine climate is characterized by short, cool summers, and long, wet winters, with heavy snow cover.

- **Interior Douglas Fir (IDF)** - dominates the low- to mid-elevation landscape of south-central interior British Columbia. The IDF has a continental climate characterized by warm, dry summers, a fairly long growing season, and cool winters.

- **Engelmann Spruce - Subalpine Fir (ESSF)** - is the uppermost forested zone in the southern three-quarters of the interior of British Columbia. The ESSF occurs predominantly in mountainous terrain which is often steep and rugged. The ESSF has a relatively cold, moist, and snowy continental climate, and the growing seasons are cool and short while the winters are long and cold.

- **Sub-Boreal Spruce (SBS)** - is the montane zone dominating the landscape of the central interior of British Columbia. The climate of the SBS is continental, and is characterized by seasonal extremes of temperature; severe, snowy winters; relatively warm, moist, and short summers; and moderate annual precipitation.

- **Sub-Boreal Pine - Spruce (SBPS)** - is a montane zone that occurs on the high plateau in the west central interior of British Columbia. The climate of the SBPS is continental and characterized by cold, dry winters and cool dry, summers. Compared to the SBS, the SBPS is drier and has similar temperatures in winter, but cooler temperatures in summer.

- **Montane Spruce (MS)** - occurs on the lee side of the Coast and Cascade mountains. The MS has a cool, continental climate characterized by cold winters and moderately short, warm summers.

(Source: Meidinger and Pojar, 1991)

- **Subzones**-consist of a sequence of lower case letters. The first letter indicates the precipitation regime; x=very dry, d=dry, m=moist, w=wet, v=very wet. The second letter is derived from the temperature (interior) or the continentality (coast) of the region. For the Central Coast region, the second letter delineates the continentality; h=hypermaritime, m=maritime, s=submaritime.

- **Variants**-are numbered from north to south. For the

Central Coast, (1) indicates the northern portion and (2) indicates the southern.

APPENDIX III: ECOSECTION AND STUDY AREA SUMMARY TABLES[4]

GOAL 1 (Representation)

GOAL 2 (Special Feature)

Each ecosection within the Central Coast Plan Area has been summarized to highlight its key attributes and characterize its biogeoclimatic sequcnces. The key conservation, recreation, and cultural heritage values for each of the revised study areas are summarized in the tables that follow.

Major Ecosections of the Central Coast Plan Area

Kitimat Ranges Ecosection (KIR)	**Ecosection Total 3,503,194 ha** (land and freshwater)

Ecosection Attributes

- Massive rounded mountains of the Coastal Intrusion (granitic), dissected by spectacular fjords (internationally significant)
- Fjord lakes, fjord lagoons with tidal rapids, extensive floodplains

- Temperate rainforest with western hemlock, western red-cedar, yellow-cedar, amabilis fir
- Sub-alpine with mountain hemlock, amabilis fir, yellow cedar
- Floodplains dominated by Sitka spruce, black cottonwood and willows; estuaries, tidal marshes, marine environments
- Fish/wildlife include grizzly bear, black bear mountain goat, salmonids, eulachon, waterfowl (over-wintering and migratory)
- Special features: spectacular fjords, hotsprings, fish/wildlife, estuaries, coastal temperate rainforest
- Recreation settings: coastal marine channels, forest, freshwater lakes, rivers, and alpine
- Cultural heritage: extensive traditional settlements/use along coast and rivers
- Logging quite extensive along Nass, Skeena, Kitimat, Kimsquit, Dean and Bella Coola valleys
- A-frame logging along marine channel; sea terminal development near Kitimat River Estuary and near the mouth of the Bella Coola River
- Red and blue-listed species: Gmelin's sedge, Regels Rush, Mountain fern, Lesser Saltmarsh sedge

Biogeoclimatic Unit Sequences

- 60% - CHWvm1; CWHvm2, MHmm1, MHmmp1; AT
- 20% - CWHws1/CWHms2; CWHws2; MHmm2; MHmmp2; AT
- 10% - CWHws2; ESSFmk; ESSFmkp; AT
- 5% - CWHws1; CWHws2; MHmm1; MHmmp1; AT
- 5% - CWHvm; MHmm1; MHmmp1; AT

Ecosection

Hecate Lowland Ecosection (HEL)

Total 1,524,904 ha (land and freshwater)

Ecosection attributes

- A narrow band of coastal lowland and island archipelago
- Long, deep fjords, fjord lakes, fjord lagoons with tidal rapids; productive estuaries, protected inlets, sandy beaches
- Climate characteristically very wet, but less rainy than other coastal areas where Coast Mountain barrier is higher
- The mosaic of wetlands (bogs and fens), colloquially known as muskeg
- Critical nesting and rearing areas for international waterfowl
- Peregrine falcon, sea lion haul-outs, distinct wildlife populations on islands
- Inside passage marine route is internationally significant, high scenic values
- Recreation activities include marine boating, sport fishing, sea kayaking; wildlife viewing
- Aboriginal heritage sites and European heritage sites
- A-frame logging has occurred along most marine channels, some hand-logging, clear-cut logging (mainland coast, Gribbell Island, and Princess Royal Island)
- Mining, commercial fishing, shipping
- Red and blue-listed species: Pelagic Cormorant, Surf Scoter, Gmelin's sedge, Yellow Montane violet

Biogeoclimatic Unit Sequences

- 80% - CWHvh2
- 10% - CWHvh2; MHwh1
- 10% - CWHvh1

Northern Pacific Ranges Ecosection (NPR)	**Ecosection Total 3,141,227 ha** (land and freshwater)

Ecosection attributes

- Area of steep rugged, often ice-capped, mountains
- Large conifers along coastal shoreline, old growth forests, Sitka spruce forest
- Natural vegetation of this ecosection is characterized by old spruce/subalpine fir and mountain hemlock/amabilis fir forests (subalpine), and old Douglas-fir and Western Hemlock (lower elevation)
- Terrain highlighted by intertidal habitats (often along steep-sided fiords), floodplains, estuaries, fjords and inlets, and in some portions, wetlands
- Multi-watershed grizzly/salmon ecosystems
- No entire watershed is fully protected; one is partially protected (Tweedsmuir protected 54% of the Bella Coola watershed)
- Special features: Wildlife: Western Grebe, Brandt's Cormorant, Common Murre, Keen's Long-eared Myotis
- Predator-prey system includes wolves, mountain goats, and mule deer

- Accessible streams are critically important to fish, because of the lack of highly suitable habitat throughout the ecosection
- Wild river valleys with little or no disturbance
- Grizzly bear/salmonberry alluvial floodplain sites
- The unroaded, mountainous terrain of this ecosection supports backcountry recreation activities such as mountaineering, climbing, wilderness camping, hunting and fishing
- Red and blue-listed species: sitka spruce - salmonberry, Canada anemone, lesser saltmarsh sedge, short-beaked sedge, coast mountain draba, smooth willowherb

Biogeoclimatic Unit Sequences

- 25% - CWHvm1; CWHvm2; MHmm1; MHmmp1; AT
- 25% - CWHms2; CWHws2; MHmm2; MHmmp1; AT
- 25% - CWHdm; CWHvm1; CWHvm2; MHmm1; MHmmp1; AT
- 20% - CWHds1; CWHms1; MHmm2; MHmmp2; AT
- 5% - CWHds1; CWHms1; ESSFmw; ESSFmwp; AT

Queen Charlotte Strait Ecosection (QST)	**Ecosection Total 23,198 ha** (land and freshwater)

Ecosection attributes

- Island groups and sheltered marine
- Intact small island vegetation communities
- Rocky intertidal algae, hard bottom habitats

- Sea cliffs and rocky islets
- Colonial breeding seabirds
- Shore scrub, and shorepine
- Red and blue-listed species: Pelagic Cormorant, Northern Sea Lions, Sea Otter, Keen's Long-eared Myotis, Western Toad, Western Grebe, Harbour Seal, Gmelin's sedge, Cassin's Auklet, Rhinocerous Auklet

Biogeoclimatic Unit Sequences

- To be determined.

Outer Fiordland Ecosection (OUF)	**Ecosection Total 3,503,194 ha** (land and freshwater)

Ecosection attributes

- Area of rugged, low relief, consisting of inlets, sounds, islands and peninsulas
- Provides habitat for many rare seabirds
- Contains 7 primary watersheds in the 5-20,000 ha range (Moore, 1991)
- Relatively undisturbed estuaries of minor rivers with excetptional fish and wildlife habitat
- Special features: Outer island/ archipelagos, Western Grebe, Marbled Murrelet, resident cutthroat trout, steep-walled fiord edges
- Recreational values: sheltered anchorages, and scenic values
- Cultural heritage: several archaeological sites

- Red and blue-listed species: Lodgepole pine - Sphagnum, Western Hemlock, Smooth Douglasia, Two-edged Water Starwort

Biogeoclimatic Unit Sequences

- 50% - CWHvm1; CWHvm2; MHmm1
- 25% - CWHdm; CWHvm1; CWHvm2; MHmm1
- 10% - CWHxm2; CWHmm1
- 10% - CWHvm1; CWHvm2; MHmm1; MHmmp1; AT
- 5% - CWHdm; CWHvm1; CWHvm2; MHmm1; MHmmp1; AT

Goal 1 Study Areas Summary Table

Study Area (1997)	**Area (ha) ***	**Conservation Values**	**Recreation Use and Appreciation Values**	**Cultural Heritage Values**	**Ecosection Representation**
• **Ahnuhati Complex**	Land & Freshwater 52,156 ha Marine Waters 643 ha	• Rated **#1 priority** for grizzly bear and salmon conservation and respresentation of NPR • **High** forest values for entire watershed cluster • Overall rating **very high** • Vegetation diversity • Large mammal predator-prey system • High mountain	• Rated as **moderate** for recreation/tourism values • Angling opportunities, however, use at present is relatively low	• Cultural material found at this site includes several subsurface shell middens and pictographs	**Northern Pacific Ranges Ecosection**

		goat population • Class 1 and 2 rivers.			
Ashlum-Reeve- Upper Inziana	Land & Freshwater 16,993 ha Marine Waters 0 ha	• **Very high** salmon values • **Moderate** grizzly values • Existing ecological-reserve proposal - vegetation representation • Heavy waterfowl/ nest/rearing use • CWHvm3 rare ecosystem type	• Rated **moderate** • Fronts largest fjord lake on the coast of B.C.	• To be determined	Northern Pacific Ranges Ecosection
Broughton Extension	Land & Freshwater 3,270 ha Marine Waters 2,066 ha	• Outstanding marine diversity and productivity; values include Killer, Minke and Humpback whales and sea lions • High density of Marbled Murrelets. • Salmon values • Ecosection representation; island archipelago • Overall rating **high**	• Rated **#1 priority** for the Central Coast • *Outstanding* marine designation; provides protected moorage, easy access, kayaking, fishing • Tourism use and its future potential are both **very high**	• High heritage values/significance • First Nations settlement patterns, subsurface shell middens, a petroform, sign of human habitation • Marine shipwrecks are present	Outer Fiordland Ecosection
Cape Caution	Land & freshwater 10,460 ha	• *Gray whales* present • High marine	• This area is rated **#2 recreation priority** for the Central Coast Plan	• Cultural material found within this area includes subsurface shell	**Hecate**

	Marine Waters 9,166 ha	intertidal values • Representation of bogs, ferns and outer scrub forest • Trembling rock in high current pass area • Overall rating **high**	Area • Superb sandy beaches and safe anchorages • Outer parts are very exposed.	middens, signs of human habitation and refuse, and a grave house.	**Lowland** Ecosection
Dean Corridor	Land & Freshwater 4,854 ha Marine Waters 52 ha	• Important for grizzly bear/salmon ecosystems • **High** habitat values for waterfowl in estuary • Class 1 river • Interior-coastline link • Representation of drier units - CWHds2 and ms2	• Rated **high** for recreation values • This area is internationally known for its sportsfishing	• Rock carvings at canyon	**Kitimat ranges Ecosection**
Deserters and Walkers Group	Land & Freshwater 804 ha Marine Waters 4,673 ha	• Overall conservation rating is **very high** • High seabird and eagle values, site of largest sea lion haul-outs on BC's southern coast • Complete island group	• Safe anchorage for cruise ships and boaters traveling between Port Hardy and Seymour Inlet (strategically important location) • Scuba diving	• To be determined	Queen Charlotte Strait Ecosection
Duke of Edinburgh	Land & Freshwater	• Overall rating	• Sea bird watching	• To be determined	

Extension	8 ha Marine Waters 4,673 ha	**very high due to special features** • Close to 1 million sea birds nest here, critical feeding grounds for nesting and migrating birds • 550 pairs of Rhinocerous Auklets (rare species)	opportunities • Areas for camping are limited		**Queen Charlotte Strait Ecosection**
Ellerslie Lake/ Harbours	Land & Freshwater 16,510 ha Marine Waters 405 ha	• Overall rating **high** • Coastal Temperate Rainforest • Salmon - (Kokanee - no anadromous species due to waterfall) rated moderate • Cryptodepression lake • *Murrelets* - high concentrations • Connectivity with Fiordland Rec. Area	• This area is rated **#3 priority** for recreation and tourism for entire plan area • Sandy beaches, scenic values, kayaking, canoeing, angling, camping and hiking opportunities • Trophy cuttroat fishing • Safe anchorage and falls	• The Ellerslie system has **very high** cultural value for the Heiltsuk Nation. • Pictographs, signs of human habitation, burial sit, a plank house, and other material	**Kitimat Ranges and Hecate Lowland Ecosections**
Hotsprings	Land & Freshwater 9,798 ha Marine Waters 0 ha	• High mountain goat values • Biological diversity around hotsprings • Old forest • Overall rating **high**	• Moderately significant - hotsprings in scenic setting. • Talheo hotsprings developed in 1920/30s • Some recent development	• Historic village site • Hotsprings and medicinal values.	**Northern Pacific Ranges Ecosection**

Khutze	Land & Freshwater 33,739 ha Marine Waters 1,310 ha	• Rated **#4 priority** for protection of grizzly bear/salmon ecosystems • Very important and large estuary and wetlands • Low elevation Sitka spruce and highly productive forest • Important waterfowl habitat • Old temperate rainforest • Large Marbled Murrelet concentrations • Overall rating **very high**	• Key anchorage adjacent to main Inside Passage route • **Very high** scenic values	• Fish trap and village site at river mouth • Old mining railway embankment across estuary. • Old mine (1930's) inland.	Kitimat Ranges Ecosection
Koeye	Land & Freshwater 18,498 ha Marine Waters 55 ha	• Identified as the **#1 priority** for ecological representation of HEL in the Central Coast and #3 priority for protecion of grizzly bear/salmon ecosystems • Old temperate rainforest • Red and blue-listed waterfowl • Important waterfowl habitat; high	• Section 12 map reserve as boat haven • White sand beaches, kayaking, boating, good summer anchorage, wildlife viewing	• Four village sites and many archaeological sites, including fish traps. • Subsurface shell middens, surface refuse, signs of historic habitation	**Northern Pacific Ranges Ecosection and Hecate Lowland Ecosections**

		value estuary • Overall rating **very high**			
Smokehouse	Land & Freshwater 33,609 ha Marine Waters 28 ha	• Smokehouse is rated **#5 priority** for protection of grizzly/salmon ecosystems within Central Coast Plan Area and #2 for representation of NPR • Waterfowl nest/ rearing • Old temperate rainforest • Large lake; intact watershed • Overall rating **high-very high**	• Rated **moderate** for recreation values • Potential future for wilderness-based experiences.	• To be determined	**Northern Pacific Ranges Ecosection**
Spirit Bear	Land & Freshwater 78,478 ha Marine Waters 7,058 ha	• *Kermode Bears* - a white phase of the black bear found on Princess Royal Island and elsewhere • Salmon, Murrelets, Bald Eagles • Old temperate rainforest • Representation of HEL-KIR transition and entire inlet • Overall rating	• Recreation value rated **moderate** • Fishing, boating, wildlife viewing opportunities	• Cultural sites; fishing, gathering • Legends associated with Kermode bear • Signs of human habitation, refuse, a platform, a petroform	**Kitimat Ranges and Hecate Lowland Ecosections**

		high			
Upper Kimsquit	Land & Freshwater 10,652 ha Marine Waters 0 h	- Unique grizzly/salmon features - One of the few coastal drainages that supports resident moose populations - Rare plants (some red-listed)	- Low significance	- First Nation trail to Kitlope	**Kitimat Ranges Ecosection**

Goal 2 Study Areas Summary Table

Study Area (1997)	**Area**	**Significant Features**	**Ecosection**	**Biogeoclimatic** Representation	**Primarily Recreation or Conservation/ Cultural Heritage**
Aitken Islands	land and freshwater 13 ha marine water 203	- Rich intertidal life - High kayaking values - Opportunities for camping and shoreline exploration - Entrance to the Laredo Inlet	Hecate Lowland Ecosection	- 13 ha to CWHvh2 - 203 ha marine	Recreation
Barnard Harbour	land and freshwater 1,021 ha marine water 168 ha	- Biologically exceptional area with high fish and wildlife use, seasonal concentrations of black bear and eagles, wildelife viewing - Safe, strategic anchorage, base for sportsfishing	Hecate Lowland Ecosection	- 584 ha to CWHvh2 - 437 ha to MHwh1 - 1683 ha marine	Recreation and Conservation

		• Waterfalls, mudflats • Existing BC Parks UREP • Very scenic			
Barry Islet	land and freshwater 47 ha marine water 1,612 ha	• Renowned for large communities of rarely seen pink and white gorgonian corals • Rare northern sealions • Feeding area for rockfish	Queen Charlotte Strait Ecosection	• 47 ha CWHvh1 • 1,612 ha marine	Conservation
Bella Coola Estuary	land and freshwater 144 ha marine water 205 ha	• Highest ranked north-coast estuary for biological and social values • Important wintering for waterfowl habitat (many red and blue listed species) • Resident population of Canada Geese • Used by large numbers of juvenile salmon, eulachon runs, herring spawning • Local sport fishing	Kitimat Ranges Ecosection	• 125 ha to CWHms2 • 19 ha to CWHds2 • 205 ha marine	Conservation
Bentinck Estuaries (Asseek, Ickna and Taleomey/Noeick Estuaries)	land and freshwater 245 ha marine water 277 ha	• Valuable waterfowl habitat • Highly ranked major, coastal wetland • Rearing habitat for juvenile salmon • Heavy use by grizzly	Northern Pacific Ranges Ecosection	• 5139 ha to Atp • 639 ha to CWHms2	Conservation

		bears			
Boat Bay	land and freshwater 625 ha marine water 675 ha	• #5 Recreation priority • Important for Killer Whale management • (will deflect use from Robson Bight Ecological Reserve)	Outer Fiordland Ecosection	• 625 ha to CWHvm1 • 680 ha marine	Recreation
Burdwood Group	land and freshwater 125 ha marine water 419 ha	• Kev sheltered anchorage • High scenic values	Outer Fiordland Ecosection	• 125 ha to CWHvm1 • 419 ha marine	Recreation
Cann Inlet	land and freshwater 394 ha marine water 172 ha	• Well-used anchorage - registered boat haven • Lakes drain via impressive waterfalls • Opportunities for scenic viewing and shoreline exploration	Hecate Lowland Ecosection	• 394 ha to CWHvh2 • 172 ha marine	Recreation
Carter Bay	land and freshwater 261 ha marine water 145 ha	• Historical association with Vancouver • Home to shipwreck "Ohio" • Popular dive site • Impressive waterfall	Kitimat Ranges Ecosection	• 261 ha CWHvm1 • 145 ha marine	Recreation/ Cultural Heritage

Clayton Falls	land and freshwater 2,030 marine water 0 ha	• Rare ecosystem (CWHvm3) • Old yellow cedar temperate rainforest • Stand represents eastern most extent of yellow cedar	Northern Pacific Ranges Ecosection	• 448 ha to CWHvm3 • 162 to AT • 1,420 ha to MHmm1	Conservation
Clyak Estuary	land and freshwater 275 ha marine water 20 ha	• Important waterfowl habitat • Highly ranked major coastal wetland • Trumpeter swan, western grebe) • Used by juvenile salmon • High grizzly bear use	Northern Pacific Ranges Ecosection	• 275 ha to CWHvm1 • 20 ha marine	Conservation
Codville	land and freshwater 1,226 ha marine water 0 ha	• Addition of Sagar Lake • High recreation value • Sandy lakefront beach and trail	Hecate Lowland Ecosection	• 1,225 to CWHvh2	Recreation
Cornwall Estuary	land and freshwater 39 ha marine water 23 ha	• Black bear (potentially Kermodes) and waterfowl concentrations seasonally	Kitimat Ranges Ecosection	• 39 ha to CWHvm • 23 ha to marine	Conservation

Cranstown Point	land and freshwater 117 ha marine water 197 ha	• Very popular kayak site • Large sand beaches • Ideal campsite • Important location at south entrance to Rivers Inlet	Hecate Lowland Ecosection	• 117 ha to CWHvm2 • 197 ha marine	Recreation
Cullen Harbour	land and freshwater 224 ha marine water 388 ha	• Key sheltered anchorage • High scenic values	Outer Fiordland Ecosection	• 224 ha to CWHvm1 • 388 ha marine	Recreation
Emily Carr Inlet	land and freshwater 971 ha marine water 958 ha	• Rare plant species • Biologically and Physically exceptional features, including old-growth on limestone bedrock (karst) and caves with unusual plant communities • Safe anchorage (registered boat haven) • Excellent camp site, high tourism and recreation use	Hecate Lowland Ecosection	• 971 ha to CWHvh2 • 958 ha marine	Recreation and Conservation
Eucott Bay	land and freshwater 140 ha marine	• Safe and strategic anchorage • Destination way point • Hotspring (very developed)	Kitimat Ranges Ecosection	• 140 ha to CWHms2 • 91 ha marine	Recreation and Conservation

	water 91 ha	- Very scenic			
Forward Harbour	land and freshwater 409 ha marine water 270 ha	- One of the safest anchorages along the Inside Passage - Pink salmon, chum and coho runs - Popular sport fishing spot - Head of harbour important for waterfowl - Archaeological sites at head of harbour - Dramatic scenic views	Outer Fiordland Ecosection	- 409 ha to CWHvm1 - 270 ha marine	Recreation
Fougner Bay	land and freshwater 416 ha marine water 175 ha	- Strategic anchorage location - Heritage values - Wildlife viewing opportunities	Hecate Lowland Ecosection	- 416 ha to CWHvh2 - 175 ha marine	Recreation
Goat Cove	land and freshwater 223 ha marine water 73 ha	- Attractive steep-walled bay providing safe anchorage in strategic location - Base for divers visiting Carter Bay	Hecate Lowland Ecosection	- 223 ha to CWHvh2 - 72 ha marine	Recreation
Grant Anchorage	land and freshwater	- Complex mix of reefs, islets, pocket	Hecate Lowland	- 797 ha to	Recreation

	797 ha marine water 1,074 ha	beaches, sheltered bays and rich intertidal marine life • Small boat anchorage • Popular with kayakers	Ecosection	CWHvh2 • 1,074 ha marine	and Conservation
Genesse Wetland	land and freshwater 120 ha marine water 0 ha	• High fisheries values • Grizzly bears • Creek drains from Walkus Lake	Northern Pacific Ranges Ecosection	• 120 ha to CWHms2	Conservation
Kilbella Estuary	land and freshwater 276 ha marine water 115 ha	• Highly ranked major coastal wetland • Overwintering trumpeter swans, use by red and blue-listed species (see SA description) • Use by grizzly and juvenile salmon • Eulachon runs • Regular herring spawning	Northern Pacific Ranges	• 276 ha to CWHvm1 • 115 ha marine	Conservation
Kimsquit Estuary	land and freshwater 57 ha marine water 75 ha	• Highly ranked major coastal wetland • Wintering waterfowl habitat • Red and blue-listed species (see SA description) • Rearing habitat for large numbers of	Kitimat Ranges Ecosection	• 57 ha to CWHms2 • 75 ha to marine	Conservation

		juvenile salmon • Heavy use by grizzly bears • Guided sportfishing for coho and cutthroat • Heavy use by marine mammals • Some of the estuary is already held in trust and managed for conservation emphasis			
Kingcome Estuary	land and freshwater 225 ha marine water 242 ha	• Highly ranked major coastal wetland • High use by fish • Moderate use by waterfowl • Grizzly bear use	Northern Pacific Ranges and Outer Fiordland Ecosections	• 205 ha to CWHvm1 (OUF) • 20 ha to CWHvm1 (NPR) • 242 ha to marine	Conservation
Klinaklini Estuary	land and freshwater 355 ha marine water 292 ha	• Highly ranked major coastal wetland • High use by waterfowl and fish • Eulachon spawning and aboriginal use • First Nations oolichan fishing and processing (one of the biggest in B.C. on adjacent IR) • Extremely valuable seasonal feeding area for grizzly bears (e.g., 8 grizzlies reported to have been seen in the	Northern Pacific Ranges	• 355 ha to CWHvm1 • 292 ha to marine	Conservation

		estuary at one time) • Stanton's cabin (heritage value)			
Kwatna Estuary	land and freshwater 184 ha marine water 150 ha	• Highly ranked major coastal wetland • Overwintering of trumpeter swans • Many red and blue-listed species • Rearing habitat for juvenile salmon • Guided and unguided sportfishing for coho • Important assemblage of archaeological sites • Very heavy grizzly bear use- may be #1 in Central Coast	Northern Pacific Ranges	• 183 ha to CWHvm1 • 150 to marine	Conservation
Laidlaw Islands	land and freshwater 19 ha marine water 225 ha	• Rich intertidal life • High kayaking values • Opportunities for camping and shoreline exploration • Located at entrance to Laredo Inlet (Spirit Bear)	Hecate Lowland Ecosection	• 19 ha to CWHvh2 • 224 ha to marine	Recreation
McMullen Group	land and freshwater 39 ha marine water 856 ha	• Sea otter concentrations	Hecate Lowland Ecosection	• 39 ha to CWHvh2 • 857 to marine	Conservation

Neechantz/ Machmell Wetland	land and freshwater 282 ha marine water 0 ha	• High fisheries values • High salmon and grizzly use - may be #2 in the Central Coast • Important habitat for waterfowl • Moderately ranked major coastal wetland	Northern Pacific Ranges	• 282 ha to CWHms2	Conservation
Nekite Estuary	land and freshwater 144 ha marine water 121 ha	• Overwintering Trumpeter swans • Red-listed species (See SA descriptions) • Guided and unguided sportfishing for steelhead, cutthroat and coho	Northern Pacific Ranges Ecosection	• 144 ha to CWHvm1 • 121 to marine	Conservation
Numas Islands	land and freshwater 179 ha marine water 458 ha	• Small rhinoceros auklet colony • Important marine feeding habitats	Queen Charlotte Strait Ecosection	• 179 ha to CWHvm1 • 458 ha to marine	Conservation
Oliver Cove	land and freshwater 3,441 ha marine water 2,769 ha	• Major expansion to existing park • Good anchorage • Boating destination • High fisheries values	Hecate Lowland Ecosection	• 3,440 ha CWHvh2 • 2,769 marine	Recreation
Phillips	land and	• High use by fish and	Northern	• 1,164 ha	Conservation

Estuary/Lake	freshwater 1,608 ha marine water 9 ha	grizzly bears • High cultural/archaeological values • High wildlife viewing opportunities	Pacific Ranges Ecosection	to CWHvm1 • 444 ha to CWHdm • 9 ha to marine	
Polkinghorn	land and freshwater 149 ha marine water 321 ha	• Safe anchorage • High scenic values	Outer Fiordland and Queen Charlotte Strait	• 149 ha to CWHvm1 • 321 ha to marine	Recreation
Port John Archaeological Site	land and freshwater 28 ha marine water 0 ha	• Superb display of pictographs along prominent cliffs • Probably largest and best on BC coast • Other archaeological values	Hecate Lowland Ecosection	• 28 ha to CWHvh2	Cultural Heritage
Quatlena Estuary	land and freshwater 43 ha marine water 129 ha	• Important for waterfowl • Use by red and blue-listed species (see SA description) • summer-run steel head sportfishing	Hecate Lowland Ecosection	• 43 ha to CWH vh2 • 129 to marine	Conservation
Racey Inlet	land and freshwater	• Registered boat haven/anchorage	Hecate Lowland Ecosection	• 291 ha CWHvh2	Recreation

	291 ha marine water 239 ha	- Scenic waterfalls - Hiking opportunities		- 239 ha marine	
Rescue Bay	land and freshwater 241 ha marine water 121 ha	- Very good anchorage - High scenic values - Adjacent to Jackson Narrows Park	Hecate Lowland Ecosection	- 241 ha CWHvh2 - 121 ha marine	Recreation
Restoration Bay	land and freshwater 714 ha marine water 272 ha	- #6 recreation priority - High natural and heritage values (used by Captain Vancouver in late 1793) - Links to Quatlena estuary - Old village site - Whale watching	Hecate Lowland Ecosection	- 714 ha CWHvh2 - 272 ha marine	Recreation
Seymour Estuary	land and freshwater 267 ha marine water 75 ha	- High use by fish - Moderate use by waterfowl - Cultural heritage values	Northern Pacific Ranges Ecosection	- 267 ha to CWHvm1 - 75 ha to marine	Conservation
Sheemahant Wetland	land and freshwater 484 ha	- Overwintering Trumpeter swans - Heavy use by grizzly	Northern Pacific Ranges Ecosection	- 484 ha to CWHms2	Conservation

	marine water 0 ha	• Sockeye spawn in narrows of Owikeeno Lake • Guided sportfishing • Waterfowl nesting/rearing • Red and blue-listed species			
Skowquiltz Estuary	land and freshwater 27 ha marine water 38 ha	• Overwintering Trumpeter swan • Use by red and blue-listed species (see SA description)	Kitimat Ranges Ecosection	• 27 ha to CWH ms2 • 38 ha to marine	Conservation
Smithers Island	land and freshwater 60 ha marine water 46 ha	• Seals, otters and bight with sheer cliffs crowded with intertidal snails • Recreational anchorage and shelter for small craft	Hecate Lowland Ecosection	• 58 ha to CWHvh2 • 46 ha to marine	Recreation
Stafford Estuary	land and freshwater 538 ha marine water 89 ha	• High fisheries values (sympatric rainbow/Dolly Varden population) • Seasonal grizzly use • Rare plants nearby • Moderate use by waterfowl	Northern Pacific Ranges Ecosection	• 538 ha to CWHvm1 • 89 ha to marine	Conservation
Swanson Bay	land and freshwater	• Historic site • First pulp mill in BC	Kitimat Ranges	• 43 ha to CWHvm1	Recreation

	43 ha marine water 42 ha	• Old buildings	Ecosection	• 42 ha marine	
Takush Harbour	land and freshwater 1,770 ha marine water 662 ha	• Strategic anchorage • Upland access to old growth • Winter village in the area • Wildlife viewing opportunities • Herring spawning • Roe-on-kelp operation	Hecate Lowland Ecosection	• 1,770 ha to CWHvh1 • 652 ha marine	Recreation
Thorsen Creek	land and freshwater 9 ha marine water 0 ha	• Superb, extensive collection of petroglyphs in an old-growth forest (existing UREP) • Protected by the Nuxalk people • Impressive waterfall	Kitimat Ranges Ecosection	• 9 ha CWHds2	Cultural Heritage
Thurston Bay	land and freshwater 202 ha marine water 662 ha	• Good anchorage • Existing trail system • High visuals • High tourism and recreation use and potential • Archaeological sites	Outer Fiordland Ecosection	• 202 ha to CWHxm2 • 662 ha marine	Recreation
Troup Passage	land and freshwater	• Good anchorage • Rich marine life	Hecate Lowland Ecosection	• 2,853 ha CWHvh2	Recreation

	2,913 ha marine water 1,732 ha	• High cultural heritage values (pictographs, fish traps, long house remains) • Freshwater lake features • Boating destination and high scenic values		• 1,818 ha marine	
Wakeman Estuary	land and freshwater 194 ha marine water 125 ha	• High use by waterfowl • High salmon values • Sportfishing opportunities	Northern Pacific Ranges and Outer Fiordland Ecosections	• 104 ha to CWHvm1 (NPR) • 90 ha to CWHvm1 (OUF) • 125 ha to marine	Conservation
Walkus Lake	land and freshwater 895 ha marine water 0 ha	• Small lake surrounded by intact old-growth (large Douglas Fir) within a heavily harvested area • Heavy use by grizzly - "ancient bear trail"/marked trees • Very high First Nations heritage/spiritual value (place where the "loon got its necklace")	Northern Pacific Ranges Ecosection	• 554 ha to CWHms2 • 143 ha to CWHws2 • 197 ha to MHmm2	Conservation
Yorke Island	land and freshwater 38 ha marine water	• #7 recreation priority for the Central Coast • Historic artillery site W.W.II (principle gun emplacement protecting Johnson	Outer Fiordland Ecosection	• 99 ha CWHvm1 • 470 ha marine	Recreation

	385 ha	Strait • Critical anchorage site along Inside Passage • High tourism use and potential			

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The Central Coast Protected Area Strategy (PAS) Report

APPENDIX IV: GAP ANALYSIS* BY ECOSYSTEM

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*The 'gap' amount is formulated by subtracting the amount of protected area from 12% of the total area of the Biogeoclimatic unit. Positive figures indicate a gap; negative figures indicate a surplus. Note: Totals for each biogeoclimatic zone/subzone/variants within each ecosection can be found along the top row of each of the following tables.

Note: Double-line rivers are not included in the 'Lake' portion of each ecosection, they are included in the land base.

LIST OF TABLES

1. **Hecate Lowlands Ecosection**
2. **Kitimat Ranges Ecosection**
3. **Northern Pacific Ranges Ecosection**
4. **Outer Fjordlands Ecosection**
5. **Queen Charlotte Strait Ecosection**

HECATE LOWLANDS ECOSECTION

		Biogeoclimatic Subzone/Variant								
		ATp	CWHvh1	CWHvh2	CWHvm1*	CWHvm2*	Lake	MHwh1	Ecosection	Marine
Area Name		4,157	122,892	1,250,466	1,663	8,738	25,840	111,148	1,524,904	
Existing Protected Areas within the HEL Ecosection										
	Status									
Codville Lagoon Marine	Class A Park			484					484	336
Dewdney and Glide Islands	Ecol. Reserve			3,693					3,693	8,614
Diana Lake	Class A Park			246					246	
Gamble Creek	Ecol. Reserve			394			6	563	963	
Hakai	Rec. Area			51,443				382	51,825	70809
Jackson Narrows Marine	Class A Park			32					32	30
Kitson Island Marine	Class A Park			18					18	33
Klewnuggit Inlet Marine	Class A Park			1,176			196		1,372	545
Lowe Inlet Marine	Class A Park			558			2	372	932	202
Oliver Cove Marine	Class A Park			25					25	50
Penrose Island Marine	Class A Park			853					853	1,082
Prudhomme Lake	Class A Park			7					7	
Union Passage Marine	Class A			920					920	484

	Park									
Subtotal PA (ha)		0	0	59,849	0	0	204	1,317	61,370	82,185
Subtotal PA %		0.00%	0.00%	4.79%	0.00%	0.00%	0.79%	1.18%	4.02%	
12%		499	14,747	150,056	200	1,049	3,101	13,338	182,988	
GAP		499	14,747	90,207	200	1,049	2,897	12,021	121,618	

		Biogeoclimatic Subzone/Variant								
		ATp	**CWHvh1**	**CWHvh2**	**CWHvm1***	**CWHvm2***	**Lake**	**MHwh1**	**Ecosection**	**Marine**
Area Name		**4,157**	**122,892**	**1,250,466**	**1,663**	**8,738**	**25,840**	**111,148**	**1,524,904**	
Revised Study Areas (HEL) within the Central Coast Plan Area										
	Goal									
Aitken Island	2			13						203
Barnard Harbour	2			584				437	1,021	168
Barry Islet	2								0	127
Cann Inlet	2			393			1		394	172
Cape Caution Beaches	1		10,144				314		10,458	7,257
Codville Extension	2			1,054				21	1,075	1,913
Ellerslie Lake/Harbours	1	37		2,803			537		3,377	405
Emily Carr Inlet	2			903			67		970	958
Goat Cove	2			222			1		223	72
Grant Anchorage	2			794			3		797	1,060
Koeye	1	404		14,792			748	1,193	17,137	55
Laidlaw Island	2			19					19	427
McMullen Group	2			39					39	832
NAMU/Fougnar Bay	2			416					416	175
Oliver Cove	2			3,359			82		3,441	2,696
Port John Archaeological	2			28					28	0
Quatlena Estuary	2			43					43	126
Racey Inlet	2			289			3		292	239
Rescue Bay	2			241					241	121
Restoration Bay	2			714					714	272
Smithers Island	2			60					60	46
Smokehouse	1		53						53	
Spirit Bear	1			27,447			23	918	28,388	4,771
Takush Harbour	2		1,770						1,770	652
Troup Passage	2			2,719			194		2,913	1,732
Subtotal (ha) for Revised Study Areas		441	11,967	56,919	0	0	1,973	2,569	73,869	24,276
Subtotal (%) for Revised Study Areas		10.61%	9.74%	4.55%	0.00%	0.00%	7.64%	2.31%	4.84%	

		Biogeoclimatic Subzone/Variant								
		ATp	**CWHvh1**	**CWHvh2**	**CWHvm1***	**CWHvm2***	**Lake**	**MHwh1**	**Ecosection**	**Marine**
Area Name		**4,157**	**122,892**	**1,250,466**	**1,663**	**8,738**	**25,840**	**111,148**	**1,524,904**	
Original Study Areas within the HEL Ecosection										
	Status									
Banks Island	SA			101,381				615	101,996	27,899
Bella Coola/Bella Bella	SA			1,019					1,019	389
Campania Island	SA			16,379				570	16,949	11,098
Dundas Island	SA			22,308					22,308	31,620
Koeye	revised	499		14,187			743	1,191	16,620	52
Simpson/Gamble Lakes	SA	395		19,812			4,019	8,882	33,108	101
Smith Sound/Rivers Inlet	SA		885	340			6		1,231	2,028
Stephens/Porcher Islands	SA			34,639				727	35,366	29,898
Work Channel Sites	SA							813	813	
Subtotal (ha) for STUDY		894	885	210,065	0	0	4,768	12,798	229,410	103,085

AREAS								
Subtotal SA %	21.51%	0.72%	16.80%	0.00%	0.00%	18.45%	11.51%	15.04%

KITIMAT RANGES ECOSECTION

		ATp	CWHds2*	CWHms2*	CWHvh2	CWHvm*	CWHvm1*	CWHvm2*	CWHvm3*	CWHwm	CWHws1*	CWHws2*	ESSFmk	ESSFmw	Lake	MHmm1	MHmm2	MHmm2e	MHwh1	Ecosection	Marine
Area Name		**739,319**	**45,549**	**51,721**	**57,610**	**583,723**	**261,279**	**175,785**	**38,960**	**2,109**	**104,374**	**260,396**	**121,008**	**33,660**	**66,915**	**663,638**	**270,411**	**1,608**	**25,129**	**3,503,194**	
Existing Protected Areas within the KIR Ecosection																					
	Status																				
Exchamsiks River	Class A Park					18														18	0
Fiordland	Rec. Area	18,214					27,295	24,334							2,256	4,454				76,553	7503
Gitnadoix	Rec. Area	11,005				22,410									804	23,551				57,770	0
Green Inlet Marine	Class A Park						9													9	22
Khutzeymateen	Class A Park	6,062				17,165									122	21,329				44,678	434
Kitlope	ELU Act	103,230				67,178		37				44,192			2,125	75,487	28,106			320,355	0
Lakelse Lake	Class A Park										313				26					339	0
Sir Alexander MacKenzie	Class A Park						4													4	0
Skeena River	Ecol. Reserve					105														105	0
Tweedsmuir	Class A Park	30,731										5,571	22,201		6,247		9,455			74,205	0
Tweedsmuir (North)	Rec. Area	5,879										4,613	4,222		870		1,490			17,074	0
Tweedsmuir (South)	Rec. Area	15,011	11,933									1,509		25,101	379		38			53,971	0
Williams Creek	Ecol. Reserve	2									125	265					148			540	0
Subtotal PA (ha)		190,134	11,933	0	0	106,876	27,308	24,371	0	0	438	56,150	26,423	25,101	12,829	124,821	39,237	0	0	645,621	7959
Subtotal PA %		25.72%	26.20%	0.00%	0.00%	18.31%	10.45%	13.86%	0.00%	0.00%	0.42%	21.56%	21.84%	74.57%	19.17%	18.81%	14.51%	0.00%	0.00%	18.43%	
12%		88,718	5,466	6,207	6,913	70,047	31,353	21,094	4,675	253	12,525	31,248	14,521	4,039	8,030	79,637	32,449	193	3,015	420,383	
GAP		-101,416	-6,467	6,207	6,913	-36,829	4,045	-3,277	4,675	253	12,087	-24,902	-11,902	-21,062	-4,799	-45,184	-6,788	193	3,015	-225,238	
Revised Study Areas (KIR) within the Central Coast Plan Area																					
	Goal																				
Bella Coola Estuary	2		20	125																145	205
Carter Bay	2						256								6						145
Cornwall Estuary	2					39															23
Dean Corridor	1		4,225	621								8									52
Ellerslie Lake/Harbours	1	1,590					7,140	2,103							2,301					13,134	
Eucott Bay	2			129					10											139	98
Khutze	1	7,334					7,296	9,573							254	9,527				33,984	1,071
Kimsquit Estuary	2			57																	75
Skowquiltz Estuary	2			27																	38
Spirit Bear	1					3,460	32,349	8,586							2,394	2,310				49,099	2,322

Swanson Bay	2						43													43	42
Thorsen Creek	2		9																		
Upper Kimsquit	1	4,431										2,943			164	41	3,067				
Subtotal (ha) for Revised Study Areas		13,355	4,254	959	0	3,499	47,084	20,262	10	0	0	2,951	0		5,119	11,878	3,067	0	0	112,438	4,071
Subtotal (%) for Revised Study Areas		1.81%	9.34%	1.85%	0.00%	0.60%	18.02%	11.53%	0.03%	0.00%	0.00%	1.13%	0.00%	0.00%	7.65%	1.79%	1.13%	0.00%	0.00%	3.21%	
Original Study Areas within the KIR Ecosection																					
	Status																				
Cascade Inlet	deleted	57,900		1,763			18,845	18,428	10,697			2,434			2,076	23,168	6,508			141,819	2,839
Foch/Miskatla/Kitsaway	SA	11,808			16,992	19,352									1,064	24,312			3,193	76,721	7,664
Howson	SA	31,933										9,378	29,915		781		100			72,107	5,432
Kalone Peak/Dean River	deleted	55,875	5,994	1,148					7,376			9,321		3,837	531	15,798	24,762			124,642	10
Khyex/Exchamsiks Rivers	SA	18,975				36,837									594	54,423				110,829	
Nanika/Kidprice Lakes	SA	9,552										3,439	10,063		192		924			24,170	2,572
Simpson/Gamble Lakes	SA	326				6,175									618	2,076			785	9,980	
Tweedsmuir Additions	SA	417	1,767									703		485						3,372	
Work Channel Sites	SA					808									133	1,091				2,032	34
Subtotal (ha) for STUDY AREAS		186,786	7,761	2,911	16,992	63,172	18,845	18,428	18,073	0	0	25,275	39,978	4,322	5,989	120,868	32,294	0	3,978	565,672	18,551
Subtotal SA %		25.26%	17.04%	5.63%	29.49%	10.82%	7.21%	10.48%	46.39%	0.00%	0.00%	9.71%	33.04%	12.84%	8.95%	18.21%	11.94%	0.00%	15.83%	16.15%	

NORTHERN PACIFIC RANGES ECOSECTION

		Biogeoclimatic Subzone/Variant																			
		ATp	**CWHdm***	**CWHds1***	**CWHds2***	**CWHms1***	**CWHms2***	**CWHvm1***	**CWHvm2***	**CWHvm3***	**CWHws2***	**ESSFmw**	**ESSFmwh**	**ESSFxv**	**IDF unc**	**Lake**	**MHmm1**	**MHmm2**	**MHmm2e**	**Ecosection**	**Marine**
Area Name		**1,350,208**	**25,249**	**71,460**	**35,635**	**74,280**	**76,193**	**317,665**	**326,116**	**35,830**	**111,933**	**18,624**	**2,894**	**15,684**	**4,681**	**25,068**	**365,964**	**278,223**	**5,520**	**3,141,227**	
Existing Protected Areas within the NPR Ecosection																					
	Status																				
Homathko River/Tatlayoko	ELU Act	162		14,403										1,719	2,405	250		1,081		20,020	0
Ts'yl-os	Class A Park	2,882																		2,882	0
Tweedsmuir (S)	Class A Park	11,374			4,668						32	8,122				254		475		24,925	0
Atlatzi River	ER							261												261	0
Kingcome River	ER							148												148	0
Bishop River		11,139				3,265												4,210	1,107		
Subtotal PA (ha)		25,557	0	14,403	4,668	3,265	0	409	0	0	32	8,122	0	1,719	2,405	504	0	5,766	1,107	67,957	0
Subtotal PA %		1.89%	0.00%	20.16%	13.10%	4.40%	0.00%	0.13%	0.00%	0.00%	0.03%	43.61%	0.00%	10.96%	51.38%	2.01%	0.00%	2.07%	20.05%	2.16%	

12%		162,025	3,030	8,575	4,276	8,914	9,143	38,120	39,134	4,300	13,432	2,235	347	1,882	562	3,008	43,916	33,387	662	376,947	
GAP		136,468	3,030	-5,828	-392	5,649	9,143	37,711	39,134	4,300	13,400	-5,887	347	163	-1,843	2,504	43,916	27,621	-445	308,990	
Revised Study Areas (NPR) within the Central Coast Plan Area																					
	Goal																				
Ahnuhati Complex	1	10,148						12,034	14,190							438	14,726				619
Ashlum*	1	1,974						2,390	1,586							44	2,365				
Asseek Estuary**	2						22														
Clayton Falls	2	162								448							1,421			2,031	
Clyak Estuary	2							275												275	20
Genesse Wetland	2						103									16					
Hotsprings	1	2,936					1,767			81	1,688						230	3,094		9,796	3
Ickna Estuary**	2						65														
Kilbella Estuary	2							276												276	115
Kingcome Estuary	2							43												43	36
Klinaklini Estuary	2							355												355	292
Koeye	1	45							765								550			1,360	
Kwatna Estuary	2							184												184	150
Neechantz/Machmell Estuary	2						255									27				282	
Nekite Estuary	2							144												144	121
Phillips Estuary	2							870								293				1,163	
Quatlena Estuary	2																				3
Reeve*	1	2,185					562	187	127	1,136						24	1,968				
Seymour Estuary	2							267													75
Sheemahant Estuary	2						226									258				484	
Smokehouse	1	7,965						9,040	10,365							2,387	8,790			38,547	6
Stafford Estuary	2							538												538	89
Taleomey/Noeick Estuaries**	2						158														
Upper Inziana*	1	980								442						19	989				
Walkus Lake	2	1					447				143					107		197			
Wakeman Estuary	2							102								5				107	
Subtotal (ha) for Revised Study Areas		26,396	0	0	0	0	3,605	26,705	27,033	2,107	1,831	0	0	0	0	3,618	31,039	3,291	0	55,585	1,529
Subtotal (%) Study Areas		1.95%	0.00%	0.00%	0.00%	0.00%	4.73%	8.41%	8.29%	5.88%	1.64%	0.00%	0.00%	0.00%	0.00%	14.43%	8.48%	1.18%	0.00%	1.77%	
		Biogeoclimatic Subzone/Variant																			
		ATp	**CWHdm***	**CWHds1***	**CWHds2***	**CWHms1***	**CWHms2***	**CWHvm1***	**CWHvm2***	**CWHvm3***	**CWHws2***	**ESSFmw**	**ESSFmwh**	**ESSFxv**	**IDF unc**	**Lake**	**MHmm1**	**MHmm2**	**MHmm2e**	**Ecosection**	**Marine**
Area Name		**1,350,208**	**25,249**	**71,460**	**35,635**	**74,280**	**76,193**	**317,665**	**326,116**	**35,830**	**111,933**	**18,624**	**2,894**	**15,684**	**4,681**	**25,068**	**365,964**	**278,223**	**5,520**	**3,141,227**	

Original Study Areas within the NPR Ecosection

	Status																				
Ahnuhati River	revised	5,255						4,245	4,140							131	5,766			19,537	14
Ape Lake/Monarch Glacier	deleted	198,849			3,502		16		312	2,846	5,689					1,447	11,037	51,278	539	275,515	
Koeye	revised	4							757								521			1,282	
Mt. Waddington/Klinaklini R.	deleted	238,247			19,802			933	4,768		35,602	10,444	2,894			661	9,578	43,652	2,696	369,277	
Snootli Peak	deleted	24,360								14	1,376					294	1,421	10,061		37,526	
Tweedsmuir Additions	SA				463						118	40								621	
Upper Lillooet River	SA	10,534																		10,534	
Subtotal (ha) for Original Study Areas		477,249	0	0	23,767	0	16	5,178	9,977	2,860	42,785	10,484	2,894	0	0	2,533	28,323	104,991	3,235	714,292	14
Subtotal SA %		35.35%	0.00%	0.00%	66.70%	0.00%	0.02%	1.63%	3.06%	7.98%	38.22%	56.29%	100.00%	0.00%	0.00%	10.10%	7.74%	37.74%	58.61%	22.74%	

OUTER FJORDLAND ECOSECTION

		Biogeoclimatic Subzone/Variant										
		ATp	**CWHdm***	**CWHmm1**	**CWHvm1***	**CWHvm2***	**CWHxm1**	**CWHxm2**	**Lake**	**MHmm1**	**Ecosection**	**Marine**
Area Name		**1,071**	**49,724**	**9,871**	**247,587**	**45,900**	**104**	**57,677**	**8,605**	**16,576**	**437,115**	
Existing Protected Areas within the OUF Ecosection												
	Status											
Broughton Archipelago Marine	Class A Park				2,028						2,028	8,110
Desolation Sound Marine	Class A Park		192				104				296	2,600
East Redonda Island	Ecol. Reserve	73	2,744		1,235	921				1,241	6,214	0
Octopus Islands Marine	Class A Park							65			65	43
Roscoe Bay	Class A Park		210								210	27
Teakerne Arm	Class A Park		123								123	12
Thurston Bay Marine	Class A Park							157			157	30
Hathayim (Von Donop) Marine	Class A Park		430								430	209
Walsh Cove	Class A Park		40								40	50
Subtotal PA (ha)		73	3,739	0	3,263	921	104	222	0	1,241	9,563	11,081
Subtotal PA %		6.82%	7.52%	0.00%	1.32%	2.01%	100.00%	0.38%	0.00%	7.49%	2.19%	
12%		129	5,967	1,185	29,710	5,508	12	6,921	1,033	1,989	52,454	
GAP		56	2,228	1,185	26,447	4,587	-92	6,699	1,033	748	42,891	

		Biogeoclimatic Subzone/Variant										
		ATp	**CWHdm***	**CWHmm1**	**CWHvm1***	**CWHvm2***	**CWHxm1**	**CWHxm2**	**Lake**	**MHmm1**	**Ecosection**	**Marine**
Area Name		**1,071**	**49,724**	**9,871**	**247,587**	**45,900**	**104**	**57,677**	**8,605**	**16,576**	**437,115**	
Revised Study Area (OUF) within the Central Coast Planning Area												
	Goal											
Ahnuhati Complex	1				619							87
Boat Bay	2				611						611	675
Broughton Extension	1				3,307				15			2,026
Burdwood Group	2				124							419
Cullen Harbour	2				224							344
Forward Harbour	2				408	1					409	270
Kingcome Estuary	2				19						19	197
Phillips Estuary	2		420						25		445	9
Polkinghorn	2				149							299
Thurston Bay	2							202			202	662

Wakeman Estuary	2				86						86	125
Yorke Island	2				38						38	385
Subtotal (ha) for Areas of Interest		0	420	0	5,585	1	0	202	40	0	6,248	5,498
Subtotal AoI %		0.00%	0.84%	0.00%	2.26%	0.00%	0.00%	0.35%	0.46%	0.00%	1.43%	
Original Study Areas within the OUF Ecosystem												
	Status											
NONE											0	
Subtotal (ha) for STUDY AREAS		0	0	0	0	0	0	0	0	0	0	0
Subtotal SA %		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	

QUEEN CHARLOTTE STRAIT ECOSECTION

Area Name		**CWHvh1** 12,561	**CWHvm1*** 10,637	**Ecosection** 23,198	**Marine**
Existing Protected Areas within the QCT Ecosection					
	Status				
Cormorant Channel	Class A Park		216	216	527
Broughton Archipelago Marine	Class A Park				981
Duke of Edinburgh	Ecol. Reserve	2		2	75
Gods Pocket	Class A Park	527		527	1498
Subtotal PA (ha)		529	216	745	3081
Subtotal PA %		4.21%	2.03%	3.21%	
12%		1,507	1,276	2,784	
GAP		978	1,060	2,039	
Revised Study Areas (QCT) withing the Central Coast Plan					
	Goal				
Barry Islet	2	47		47	1,612
Boat Bay	2				5
Cape Caution	1	1			1680
Cullen Harbour	2				44
Deserters and Walkers Group	1	804		0	4,673
Duke Edinburgh Extension	1	8		8	8,292
Numas Islands	2	179		179	458
Polkinghom	2				22
Subtotal (ha) for Revised Study Areas		1,039	0	234	16,786
Subtotal (%) Revised Study Areas		8.27%	0.00%	1.01%	
Original Study Areas within the QCT Ecosection					
	Status				
NONE					
Subtotal (ha) for STUDY AREAS		0	0	0	0
Subtotal SA %		0.00%	0.00%	0.00%	

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APPENDIX V: REVISED STUDY AREAS DESCRIPTIONS - GOAL 1*

*** Note:** The Dean Corridor and Upper Kimsquit Study Areas were primarily selected and designed to focus on the nationally-internationally significant protected area values they contain. They do not fit neatly into either the Goal 1 or Goal 2 categories, but due to their size, extent and significance, they have been grouped with the other Goal 1 Study Areas.

- Ahnuhati Complex
- Ashlum-Reeve-Upper Inziana
- Broughton Extension
- Cape Caution
- Dean Corridor
- Deserters and Walkers Group
- Duke of Edinburgh Extension
- Ellerslie Lake/Harbours
- Hotsprings
- Khutze
- Koeye
- Smokehouse
- Spirit Bear
- Upper Kimsquit

AHNUHATI COMPLEX
Northern Pacific Ranges Ecosection
Land and freshwater 52,156 ha
Marine waters 643 ha

General Description:

- The Ahnuhati Complex is a large unit made up of 3 intact primary watersheds (Ahnuhati, Kwalate and Ahta) and the mid-upper drainage of a fourth watershed (Kakweiken), situated between Kingcome and Knight Inlets. This unit is highly typical of the watersheds along the coastal fjords of the Northern Pacific Ranges (NPR) Ecosection.
- The Ahnuhati, Kwalate and Ahta are 3 of the last 4 undeveloped watersheds >5,000 ha in size in the southern-Central Coast planning area.
- Ahnuhati, Kwalate and Kakweiken, as a multi-watershed landscape, have the highest fish and wildlife value as an ecosystem on the mainland coast (BC Environment)
- This unit is ranked the #1 priority for protection of a viable grizzly bear, salmon, old growth ecosystem.
- The Ahnuhati, Kwalate and Kakweiken are all steep sided river valleys with a mix of stable and unstable forested and non-forested slopes, while the Ahta is a broad, U-shaped valley with a much more even forest cover and larger estuary.
- The Ahnuhati has high research values.

Naturalness:

- Greater than 75% undisturbed.
- The Ahnuhati, Kwalate and Ahta are classified as undeveloped-modified watersheds, due to limited, past harvesting activity:

-approx. 250 ha logged in the lower end of the Ahnuhati 1979-83 (mostly on the East side of the river);

-approx. 40 ha logged on the lower river of the Kwalate in the 1930's, extending 300 m upstream;

-approx. 50 ha old logging in the Ahta watershed and around the river mouth;

-logging activity in the lower half of the Kakweiken drainage (outside of the unit) began in 1973 and by 1980 extended upstream as far as Elbow Creek. Logging

was reactivated in 1988 with the reconstruction of roads. Many roads were washed out by floods during Nov '89.

-There is also a major salmon channel for pink salmon constructed by DFO from 88-89, adjacent to reach 6 (just downstream of the Elbow Creek confluence .

- The forest of the Kwalate has not been logged, and therefore 100% natural, and the area of Kakweiken within the proposed protected boundary is near the same, having only a few harvested blocks.

Representativeness:

- The Ahnuhati complex is ranked priority #1 for representation of the NPR.
- Representation of biophysical features is rated high.
- Representation of biogeoclimatic unit sequences is rated high.
- It fills the following key gaps in the Northern Pacific Ranges Ecosection: complete multi-watershed grizzly bear, salmon ecosystems, high value salmonid streams, large mammal predator-prey systems, wetlands, floodplains, old growth forests and estuaries, southerly aspect old growth forest, large coastal shoreline conifers, lakes, inlets, and intertidal habitats.

Contribution to Biogeoclimatic Unit Gaps:

•10,148 ha to gap in ATp in the NPR

•12,034 ha to gap in CWHvm1 in the NPR

•14,190 ha to gap in CWHvm2 in the NPR

•14,726 ha to gap in MHmm1 in the NPR

Representation of Priority Biogeoclimatic Units (more likely to contain large, old trees):

•Represents priority unit CWHvm1 - 12,034 ha

•Represents priority unit CWHvm2 - 14,190 ha

Diversity:

- Rated high for diversity of habitat types and biophysical features, including old growth forests, estuaries (large in Ahta), class 1 and 2 river systems, floodplains, avalanche chutes, rock cliffs.
- Highest mountain goat population

Viability:

- This unit is rated high viability.

- The four drainages of the Ahnuhati Complex are all linked geographically, providing strong connectivity.
- Individual watersheds are too small to sustain a grizzly population. However, in combination, viability is much higher.
- This unit is estimated to support approx. 60 grizzly bears; the minimum viable population is estimated to be approx. 90 bears.

Significance for Conservation:

- Overall rating is very high, protection of multi grizzly-salmon watersheds will also protect all other biodiversity elements in this area. Goldeneyes and dabbling ducks are found in moderate numbers

Grizzly Bear

- This area is rated as the #1 priority for protection of grizzly/salmon ecosystems.
- This area has been known as a valuable area for grizzly bears since mid 70s (first radio telemetry of grizzlies in B.C.).
- It is well connected (via Sims creek) to the head of Knight Inlet (thus to the interior) and over to Kingcome Inlet.
- Some of the best avalanche chute/grizzly habitats in coastal B.C.
- Ahta estuary is extremely valuable (even after the slide) from a grizzly bear foraging perspective.

Salmon

- This are is rated very high for salmon conservation values
- This unit contain 2 of 42 class 1 and 2 fish streams in B.C.
- The Kwalate and Kakweiken are the single most important fish producers on the south-Central Coast
- A series of cascades on Kwalate Creek from 400 to 500 m upstream from the mouth, with a 2.5 m falls at the top end, excludes chum and pink from the reaches above, but is navigable by summer steelhead, summer coho a few Chinook and cutthroat. Ideal spawning and rearing habitat exists throughout most of the 11.5 km upstream of the lower cascades and falls, substantial pink, coho, some chum and chinook.
- The Ahnuhati River has large runs of pink and chum salmon and some Chinook, coho and traces of sockeye

salmon. Other species present include steelhead, trout, and Dolly Varden. Fishing guides operating on the Ahnuhati indicate catches of cutthroat, rainbow and Dolly Varden have declined over the past 3 years.

- Heli-fishing for pink salmon has occasionally yielded daily catch and release in excess of 100 fish.
- Salmon values in the Ahta are concentrated in the lower reach for winter steelhead. The falls that are located .6km from the mouth, are reported as passable for sockeye and coho.
- The Kakweiken river and lake are well known for their abundance of cutthroat, steelhead, Dolly Varden and salmon. Preliminary evidence suggests that trout in this system are mainly anadromous, rather than lake or stream resident, but stock status remains unclear. Trout stocks in the lake are of special regional significance. Kakwieken has 20 km of salmon habitat (pink, coho, chum, chinook, sockeye)

Estuary

- The Ahta estuary is the most significant in this complex. A Rating Scheme for British Columbia's major Coastal Wetlands assigned a biological ranking of 9 out of 10.

Coastal Temperate Rainforests

- High forest values for entire watershed cluster.

Vulnerability:

- Rated high for vulnerability. Grizzly/salmon ecosystems are highly sensitive to forest development for a variety of reasons (e.g. wildlife habitat modification/degradation/fragmentation; increased human access and poaching; siltation; flashflooding)
- Plans for imminent logging in the Ahta and planned harvesting in the Kwalate and Kakweiken watersheds. MacMillan Bloedel has an approved block in the lower Ahta considered important to the integrity of this drainage.
- This area is very sensitive to forest development as evident by a number of natural slide events occurring in the steeply sloped portions.
- Coho salmon are considered to have been severely over-fished by river anglers and highly sensitive to siltation.

Recreation/Tourism Values:

- Rated as moderate for recreation/tourism values.
- The Ahnuhati is included in the provincial list of the top rivers for recreational fishing because of high steelhead, salmon, and trout fishing values. (However, recreational fishing could be a potential conflict with grizzly bear conservation efforts.)
- It appears that Kwalate, and Ahnuhati rivers have the potential to support more angler days for anadromous fish then at present. However, stream resident fish are not abundant and are likely vulnerable to over harvesting, so conservative regulations should continue to be used.
- Kakweiken Lake is a major attraction for recreational sport fishing by helicopter, there is a good landing site.
- Ahta watershed offers a protected anchorage and is the most accessible of the complex to recreational users in the vicinity of Gilford Island (Blackfish Sound, Broughton Group), which has very high use by yachts, kayakers, and sports fishermen.
- Current public use of this area includes angling and wildlife viewing.
- There is potential for hiking in old growth near Kingcome village.
- Buffer Zone kayaking company now takes people hiking into the Ahta.
- Recreational fishing values are very high.

Cultural Heritage Values

- Cultural material found at this site includes several subsurface shell middens and pictographs.

Land Status:

Timber Harvesting

- Short and long term impact to AAC rated very high.
- 26 blocks proposed for 1996-99.

Tourism

- Concern over possible interactions between recreational fishers and bears.
- Kakweiken-Kwalate River

- There is one licensed guide outfitter and 8 licensed angling guides.

- There are two registered traplines.

- Ahnuhati River

- There is one licensed guide outfitter, and 3 angling guides.
- There is one registered trapline.

Mining

- No existing tenures.
- Moderate to high mineral potential; 2 mineral occurrences recorded; one gold-silver vein is very near the southern boundary. (Ahta mineral potential is estimated as low or unknown).

Lands

- TSL A20511, CP#7, a 30 ha heli-block, at Escape Point (between the Ahnuhati and Kwalate drainages) has been excluded.
- MB Block 9001 (lower Ahta drainage) has been excluded.
- MB Block 9004 (adjacent to boundary to the northwest of Bond Sound) has been excluded.
- The Ahnuhati Complex was approved as a Study Area with the following special conditions:
- a) A small, 30 hectare heli-block (CP#7 of Timber Sale License A20511) located near Escape Point between the Ahnuhati and Kwalate drainages was approved for harvesting, prior to finalization of the Study Area revisions approval. Government is therefore legally obliged to allow harvesting of the block to proceed in 1997.
- b) MacMillan Bloedel (MB) has an approved block (#9001) in the lower Ahta drainage which is also well advanced in approvals. Government has legal obligations to allow the harvesting to proceed as long as the pre-harvesting silviculture prescription and cutting permit applications meet Code requirements.

ASHLUM-REEVE-UPPER INZIANA
Northern Pacific Ranges Ecosection
Land and freshwater 16,993 ha
Marine waters 0 ha

General Description:

- The Ashlum-Reeve-Upper Inziana unit is comprised of 2 steeply sloped watersheds (the Ashlum and Reeve) on the north side of Owikeno Lake, and the Upper Inziana watershed, within the Northern Pacific Ranges (NPR) Ecosection.
- This area is known for it's very high sockeye salmon values as well as grizzly and mountain goats, and includes rocky hillsides, some mixed old-growth forest and some forest with bedrock to surface. It overlaps with an existing ecological reserve proposal (#342).
- Contains largest fjord lake on coastal British Columbia.

Naturalness:

- Moderate to High degree of naturalness; some small patches logged along Owikeno Lake

Representativeness:

- Rated very high for representation of biogeoclimatic unit sequences
- Rated moderate for representation of biophysical features of the NPR
- Ranked #4 for representation of the NPR.
- Contributed to filling gaps in the NPR, including: old growth forests (all types); multi-watershed salmon/grizzly ecosystem; salmon streams; wetlands.
- One on only opportunities to represent CWHvm3 in the NPR; CWHvm3 is a rare ecosystem type.
- Missing representative broad floodplains and U-shaped valleys.

Contribution to Biogeoclimatic Gaps:

•5,139 ha to gap in AT in the NPR

•574 ha to gap in CWHms2 in the NPR

•2,587 ha to gap in CWHvm1 in the NPR

•1,713 ha to gap in CWHvm2 in the NPR

•1,593 ha to gap in CWHvm3 in the NPR

•5,387 ha to gap in MHmm1 in the NPR

Representation of Priority Biogeoclimatic Units:

•Represents priority unit CWHms2 - 574 ha

•Represents priority unit CWHvm1 - 2,587 ha

•Represents priority unit CWHvm2 - 1,713 ha

- Represents priority unit CWHvm3 - 1,578 ha

Diversity:

- Rated moderate for diversity.

Viability:

- Rated moderate.

Significance for Conservation:

- Rated high
- Represents transition from central hypermaritime to maritime biogeoclimatic.
- Freshwater (inlet) aquatic systems and influence.
- Fronts largest fjord lake on the coast of B.C.
- Heavy waterfowl nest/rearing use.
- CWHvm3 is a rare ecosystem type.
- Significant seasonal habitat values for grizzly bears
- Linkages to other important grizzly bear watersheds, and some grizzly fishing

Vulnerability:

- High vulnerability
- Coho salmon have been severely over fished by river anglers.

Recreation/Tourism Values:

- Rated moderate

Cultural Heritage Values

- To be determined

Land Status:

Timber Harvesting

- Several heli-blocks engineered by Weldwood last year,

but dropped from latest Interfor plan.
- Potential conflict with FL A16850 (not charted).

Mining

- No tenures or mineral occurrences
- Low or unknown mineral potential

Tourism

- No known conflict.

First Nations

- High potential conflicts: MoF First Nations deferral area for most of proposal except Ashlum. Owikeno band wants economic opportunities and oppose issuance of any tenures unless they are involved.

BROUGHTON EXTENSION
Outer Fiordland Ecosection
Land and freshwater 3,323 ha
Marine waters 2,026 ha

General Description:

- This unit is proposed as an extension to the existing Broughton Archipelago Marine Park.
- The Broughton unit is comprised of a series of small outer coastal islands, islets, channels and bays at the northern entrance to the Outer Johnstone Strait, due east of Port McNeill, in Fiordland Ecosection (OUF). The area's coastline is complex, rugged and very scenic and complemented by equally complex bathymetry.
- This unit is rated as the #1 recreation priority for the entire Central Coast planning area.
- Primary values include: outstanding marine destination; protected moorage; representation of island archipelagos; easy access; high capability to meet increasingly high demand; high heritage values; and highly productive marine habitats.

Naturalness:

- While the majority of the upland portion of this unit is maturing second growth, >75% of the marine coast has a high degree of naturalness.

- Harvesting has occurred on larger islands.

Representativeness:

- Contributes significantly to representing the highly productive marine environments and outer island/ archipelagos characteristic of the OUF.

Contribution to Biogeoclimatic Unit Gaps:

•3,307 ha to gap in CWHvm1 in the OUF

Representation of Priority Biogeoclimatic Units:

•Represents priority unit CWHvm1 - 3,307 ha.

Diversity:

•Rated very high for wildlife and marine mammal diversity, including Killer, Minke and Humpback whales, sea lions, Harbour seals , Dall's porpoises and Harbour porpoise and a rich array of marine-associated bird species.

- High plankton production, salt marshes, eel grass beds, kelp beds.

Viability:

- Rated moderate for viability. Viability is limited by the level of existing and anticipated recreational and commercial use within and in the vicinity of the unit.

Recreation/Tourism Values:

•This unit its the #1 recreation priority for the entire Central Coast planning area.

- Broughton provides protected moorage and easy access, lots of islets, islands and coves.
- Tourism uses include recreational boating, fishing, diving and kayaking.
- Rated moderate for fishing (hotspots off Eden Island, Fife Sound, Bonwick Island, Arrow Passage).
- There are two important kayak campsites at Crease Island.
- Currently there are four fishing resorts and there are applications in for two new resorts in the vicinity of

the proposal.

Significance for Conservation:

Marine

•Outstanding marine diversity and values; this area is important for harbour porpoises and Pacific white-sided dolphins, and moderately-highly important for killer whales.

- Humpback whales may be present between January and April.

Salmon

- The area has significant salmon fisheries, both commercial and recreational.

Birds

- Highest density of Marbled Murrelets found in Queen Charlotte/Johnstone Straits (north of shoreline of Hanson Island).
- This area is moderately important for eagles, and alcids (summer Rhinoceros aucklets flocks and colony).
- A small portion of the SA is moderately utilized by waterfowl (Harlequin duck
-
- molting at east side of Bonwick island)., gulls and cormorants (nesting at Green Rock), and pelagic seabirds (small portion of 3800+ red-necked phalaropes distribution)
- Phalarope migration site and an area for marine bird feeding.

Other

- There is one adult herring holding area off the north coast of Bonwick Island.

Cultural Heritage:

•High heritage values/significance.

- There are numerous (23) archaeological sites found within the SA.
- First Nations settlement patterns.
- Post contact settlement includes natural resource boom

after 1885 Christian missions, ghost towns, abandoned First Nations settlement of Mamalilaculla on Village island, totem poles, rock art and 11 big homes.

- In 1921 site of the West Coast's last Potlatch
- Marine shipwrecks are present.
- Some of the cultural material found at this site includes several subsurface shell middens, signs of human habitation and refuge, a platform, a petroform, a cairn, a canoe skid, and a depression.

Vulnerability:

- Rated high: visuals may be affected by logging and increases in tenured tourism facilities.

Land Status:

Timber

- Low conflict- boundaries modified to follow restrictive VQO's.

Mining

- No tenures: Broughton Island - mineral potential is low (metals) and moderate (industrial minerals); Broughton-Blackfish Sound - mineral potential is moderate to high, with 1 past producing copper silver mine (Hanson Island, outside of proposal) and 7 mineral occurrences, metals and industrial minerals (Cracroft and Harbledown Islands).

Aquaculture/MAFF

- High conflict with aquaculture, primarily salmon farming.
- Area of interest covers 3 operating farms.
- Existing EAO process underway. Salmon farming in entire Broughton Archipelago, and within BC generally, is the subject of an Environmental Assessment Office review (announced April 13, 95), to be completed summer '97. No new tenures will be let until review complete. (No new fish farm sites have been approved since 1993).

Lands

- IR 6 and IR 5 (Kukwapa) on Lot 1516 have been excluded from boundary.

- Lot 840, and Lot 1454, Block A are private lands. These sections have been removed from the boundary.
- File #1402568, Right of Way, by Farewell Harbour Management, until 2005/08/07. This section has been excluded.
- Lot 402 and Res. #1402481 are leased to Farewell Harbour Management. These sections have been excluded.
- File # 14055235, License of Occupation, by North Pacific Springs Ltd., until 1999/09/15. This section has been excluded.
- Lot 839, File #1404264, #1404250, #1406655, #1405291, # 1404380, #1405400, #1405627, #1404681, have Licenses of Occupation, by Stolt Sea Farm. These sections have been excluded.
- TSL A37012 and TSL A45011 (immediately adjacent to the boundary on Bonwick Island) has been excluded.

CAPE CAUTION
Hecate Lowland Ecosection
Land and freshwater 10,460 ha
Marine waters 7,257 ha

General Description:

- The Cape Caution Beaches Study Area extends from Cape Caution south to encompass Bramham Island at the opening to Seymour Inlet and occurs within the Hecate Lowlands Ecosection (HEL).
- This area is best characterized by its large, remote sandy, beaches, dramatic rock formations, tombolos, tidal flats and pools and outer, scrubby forest and coastal muskeg and strong tidal currents/rapids and associated high marine values at the mouth of Seymour Inlet.

Naturalness:

- Greater than 75% undisturbed.

Representativeness:

•This area contributes to filling the following key gaps in the HEL: bogs and fens (muskeg); fjord inlets; marine feeding areas; marine passages.

Contribution to Biogeoclimatic Unit Gaps:

- 10,144 ha to gap in CWHvh1 in the HEL

Diversity:

- To be completed

Viability:

- To be completed

Recreation/Tourism Values:

- This area is the #2 recreation priority for the entire Central Coast planning area.
- Cape Caution beaches provides superb sandy beaches.
- Trembling rock - special feature.
- Nakwakto Rapids are reportedly the strongest tidal rapids in the world, up to 16 knots.
- Four kayak routes (3 of medium importance) critically link Slingsby/Schooner with the Walker Group (to the south) and Smith Sound (to the north).
- Kayak campsites of medium-high importance are found at Brahman Island, Bay Beach, Wilkie Point and Silvester Bay.
- An important scuba site lies south of Brahman Island.
- Two important marine transportation routes cut through Slingsby Channel and Schooner Pass

Significance for Conservation:

- Rated high
- High marine values in tidal inlet and rapids.
- This area provides conservation of a biogeoclimatic variant and therefore, its associated conservation features.
- This area is important for harbour porpoises, Pacific white-sides dolphin and moderately important for killer whales.
- Three low importance adult herring holding areas lie within the coastal are off Cape Caution.

Birds

- Eagles utilize the area, and the SA is of medium importance for gulls and cormorants, shorebirds (black oystercatcher) and pelagic seabirds (red-necked phalaropes, shearwaters, petrals, northern fulmar and black albatross).

Gray Whale

- Gray whales, which are found off-shore of the Cape Caution Beaches, are considered threatened locally because of rarity provincially, yet they are quite common globally (CDC)..
- Gray whales may be present along the mainland coast Mar.-Nov. (feeding habitat), although sightings have been reported all year long.

Cultural Heritage Values:

- Two known important cultural sites (abandoned settlement at Allison Harbour, building at Tredwell Bay) and 7 archaeological areas lie within Slingsby Channel and Schooner Pass.
- Cultural material found within this area includes subsurface shell middens, signs of human habitation and refuse, a grave house, human remains, surface metal and wood material, and, additional surface historic cultural material.

Vulnerability:

- Rated low

Land Status:

Timber Harvesting

- Potential conflict with small business.

Mining

- No conflict

Aquaculture/MAFF

- Medium conflict
- Low conflict for wild oysters, marine plants and agriculture.

Tourism

- Potential conflict with existing tourism facilities.

First Nations

- To be determined

Lands

- Lot 1216, and Lot 1055 are private lands. These sections have been excluded form the boundary.
- File # 1407132, License of Occupation, by Bowles, until 2003/06/01. This section has been excluded from the boundary.
- Includes Notation of Interest by BC Parks for Marine Park.

DEAN CORRIDOR
Kitimat Ranges Ecosection
Land and freshwater 4,854 ha
Marine waters 52 ha

General Description:

- The Lower Dean is a long, wide U-shaped river valley that supports high value spruce - black cottonwood riparian habitat.
- This valley is noted for its high habitat values for grizzly bear and includes a major class 1 river, wide extensive floodplain habitat, the lower reaches of several tributaries and a productive estuary.
- This proposal links to the already protected upper Dean River which is part of Tweedsmuir Provincial Park, and extends to the head of Dean Channel. The entire area occurs within the Kitimat Ranges (KIR) Ecosection.

Naturalness:

- Low to moderate degree of naturalness; the most productive forests have been logged; clearcuts in Kalone and Skuce Creeks and parts of Dean.
- The upper Dean and tributaries are already protected in Tweedsmuir Provincial Park.

Representativeness:

- This proposal is the only opportunity to represent a major river system (class 1 river).
- Good representation of drier BEC units and coastal

interior transition (head of inlet freezes in cold winters).

Contribution to Biogeoclimatic Gaps:

- 621 ha to gap in CWHms2 in the KIR

Diversity:

- The Dean has a high diversity of habitat with high values for waterfowl, all species of anadromous salmon and grizzly bear.

Viability:

- Moderate viability; proposal does not include entire watershed area.

- Part of largest potential Grizzly Bear Management Area in coastal B.C., if linked to Tweedsmuir through the Kimsquit to the Kitlope and out to Fiordland.

Significance for Conservation:

Grizzly/Salmon

- The Dean is rated very high for salmon and grizzly bear value and is identified as the #2 priority for protection of grizzly bear and salmon ecosystems within the entire Central Coast planning area.
- The beach and lower river salmon spawning/bear fishing that takes place in this area is highly unusual.
- Collared bears from Kimsquit used Dean on regular basis; well documented use in lower Dean by grizzly bears.
- Potential conflict between grizzly bears and recreational fishermen outweighed by other factors; habitat suitability only compromised in a few plantations in lower river portion of proposal.

Estuary

- The estuary has high habitat values for waterfowl, for all species of anadromous salmon and grizzly bears.

Waterfowl

- High habitat values for waterfowl including two blue listed species, the Trumpeter Swan and Great Blue Heron, as well as the red breasted merganser and Pacific loon.

Other

- Large population of bald eagles.
- Only Class 1 recreational sportfishing (steelhead) River On the Central Coast.
- Non-residents required to use guide.
- Number of rod days managed more intensively

Vulnerability:

- Rated high, especially for the steelhead run and grizzly bear; strong need to regulate use levels.
- Logging roads pushed to Forward Peak from estuary.

Recreation/Tourism Values:

- Rated high for recreation value; exceptional recreation opportunities. The area is internationally renowned for its steelhead sportsfishing.
- World class fly-in steelhead fishing.
- The Dean is identified as the #4 priority for protection of recreation and tourism values for the entire Central Coast planning area.
- High angling and guide/outfitting use.

Cultural Heritage Values:

- Very high First Nations use
- A Native Recovery Program is run every year on a native traditional village site.
- Old village cultural site.
- Rock carvings (pictographs) at Canyon.

Land Status:

Timber Harvesting

- No short term conflicts; no cutting is currently proposed.
- **Area is charted to WFP.**

Mining

- No tenures; potential for significant implications for access into IRM lands in tributary valleys

- Moderate mineral potential (poorly known)

Tourism

- Concern over possible interactions between recreational fishing and bears.

First Nations

- To be determined

Lands

- The Dean Corridor was approved as a Study Area with the following special condition: Access to adjacent drainages for harvesting and other resource development activities is to be assured through the Study Area, as required.
- Dean Local Resource Use Plan (LRUP) makes recommendations for many practices, which should be considered.
- There is an active application (#5406189) for a log dump site, has been placed on hold.
- Site 1-5406068 is an active tenure for equipment storage and is excluded from the SA, Site 2-5406068 is an application for fuel storage place on hold.
- File 5405907 is excluded, however, mapping may not accurately reflect this exclusion.
- DD403 is private land and has been excluded.

DESERTERS and WALKER GROUP
Queen Charlotte Strait Ecosection
Land and freshwater 804 ha
Marine waters 4,673 ha

General Description:

- The Deserters and Walker Group is a series of densely forested islands with some small rocks off perimeter shores as well as a large area of surrounding marine waters, located in the middle of Queen Charlotte Strait (QCT), due east of the northern tip of Vancouver Island.
- This area is renowned as the site of the largest sea lion haul-outs on the southern BC coast
- The area also has very high seabird, marine invertebrate, fish species and eagle values and provides

strategically important anchorage for boaters crossing the Strait.

Naturalness:

- Moderate to high naturalness; greater than 75% undisturbed (?)

Representativeness:

- Rated high for representation of QCT Ecosection; ranked # 2 priority for representation of this ecosection.
- Contributes to filling the following key gaps in the QCT ecosection: complete island group; sea cliffs and rocky intertidal; shore scrub forest; sheltered marine; rocky islets; colonial breeding seabirds.

Contribution to Biogeoclimatic Gaps:

- 804 ha to gap in CWHvh1 in QCT

Diversity:

- Very high diversity of marine invertebrates (80% of marine invertebrate species in B.C. waters found here).
- Very high diversity of marine bird species, including: Black Oystercatchers, Glaucous-winged Gull, Harlequin duck, Pigeon Guillemot; Rhinoceros Auklet; Peregrine Falcon; and Marbled Murrelet.
- High mammal diversity, including: Harbour Seal; River Otter; Northern Sea Lion, Killer Whale and Harbour Porpoise

- Important habitat for ling cod and rock fish (in major decline).

Viability:

- Rated high due to capturing complete island group and large marine water component.

Significance for Conservation:

- Overall conservation rating is very high.

Marine

- This are is important for harbour porpoises, Dall's porpoise and Pacific white-sided dolphins, and moderately high for killer whales.
- Gray whales may be present Mar.-Nov.
- One kelp bed of moderate importance lies within the SA, north of Walker Island.

Birds

- High eagle values - numerous islands and islets have eagle dusting bowls, nests and prey remains.
- Marbled murrelets (dispersed over summer) utilize the area, and the entire SA is of medium importance for alcids (common murre), gulls cormorants (possible glaucous-winged gull colonies), shorebirds (black oyster nests) and waterfowl (Nawitte bank loons).
- The SA is moderately important for pelagic seabirds (sooty shearwaters, petrals, northern fulmar and black albatross) and red-necked phalaropes.

Sea Lions

- Site of largest sea lion haul-outs on south BC coast

Other

- Phalarope migration site and a very important area for marine bird feeding.
- Notable concentrations of marine mammals, marine birds and shore birds in this area.

Vulnerability:

- To be determined.

Recreation/Tourism Values:

- Strategically important safe anchorage for cruise ships and pleasure boaters traveling between Port Hardy and Seymour Inlet (marine transportation route runs between Walker and Deserters Islands).
- Known as a scuba diving destination; this general region is receiving increasing
-
- international attention as a cold-water scuba diving destination.
- There is and important kayak route which continues through to Barry Islet. Two important kayak campsites, and one important cultural site (on

Deserters Island), lie within the SA.

Cultural Heritage Values:

- To be determined

Land Status:

Timber Harvesting

- No known conflicts.

Mining

- No known conflicts.

Aquaculture/MAFF

- High conflicts with aquaculture.
- High conflict with wild oysters and marine plants.

Tourism

- No known conflicts.

First Nations

- IR 4 (Mahpahkum) has been excluded.

Lands

- File #1404091, License of Occupation, by Anchor Seafarms Ltd.. This section has been excluded from the boundary.
- File # 1408287, License of Occupation for general commercial. This section has been excluded.
- Lot 1830, Block A is private land. This section has been excluded from the boundary.

DUKE OF EDINBURGH EXTENSION
Queen Charlotte Strait Ecosection
Land and freshwater 8 ha
Marine waters 8,292 ha

General Description:

- The Duke of Edinburgh Extension is a proposed extension to the existing Duke of Edinburgh Ecological Reserve.

- This larger unit encompasses a cluster of 5 colonies (20 islands) at the western entrance to Queen Charlotte Strait (QCT), including Storm Islands, Reid Islands, Tree Islets, Pine Island and the Buckle Group. These islands are largely bare rock and unconsolidated surficial deposits are virtually absent.
- These islands and surrounding marine waters support 99.8% of this region's seabird population.

Naturalness:

- Very high naturalness

Representativeness:

- Rated high for representation of QCT Ecosection; ranked #1 priority for representation of this ecosection.
- Represents prime seabird habitat, characteristic of this ecosection.
- Contributes to filling the following key gaps in the QCT ecosection: complete island group; sea cliffs and rocky intertidal; sheltered marine; rocky islets; colonial breeding seabirds.

Contribution to Biogeoclimatic Gaps:

- 8 ha to gap in CWHvh1 in the QCT.

Diversity:

- Very high diversity of bird species, including: Pelagic Cormorant; Bald Eagle (about 10 pair); Peregrine Falcon, Marbled Murrelet, Crow, Raven, Red-necked Phalarope; Harlequin Duck; Wandering Tattler; Black Turnstone; California Gull, Spotted Sandpiper, etc. (refer to BC Seabird Colony Inventory: report #8, CWS, 1991).
- Very diverse and abundant marine life supporting large active fisheries and breeding seabird populations of: Fork-tailed Storm Petrals; Leach's Storm Petrals; Pelagic Cormorants; Black Oyster-catchers; Glaucous-winged Gulls; Pigeon Guillemots; Cassin's Auklets; and Rhinoceros Auklets.

Viability:

- Rated high: there were no signs of deer or mink reported during the 1987 CWS survey. Minimal predation on nesting seabirds was observed.

Significance for Conservation:

- Overall conservation rating is very high.

Marine Birds

- Close to 1 million seabirds nest here, making it the second most important seabird area in B.C.; representing 99.8% of this region's seabird population.
- Soils are mostly folisoils (soft organic soils made up of decomposing plant material) that are ideally suited for seabird burrows.
- The marine waters surrounding the islands are critical feeding grounds for nesting and migrating birds due to the abundance of plankton carried by currents and fed by nutrient-rich upwellings.
- Petrals feed pelagically on zooplankton and small larval fishes; Pelagic Cormorants feed on small and juvenile fish, herring and rockfish; Glaucous-winged Gulls are opportunists feeding on such things as fish driven to the surface of the water by currents; Pigeon Guillemots feed near chore on fishes, blennies and sculpins; Cassin's Auklet feed pelagically on zooplankton (euphasids).
- Critical as a seabird feeding habitat, this area is especially important for internationally significant Rhinoceros and Cassin's Auklets.

Other

- This area is important for harbour porpoises, Dall's porpoise and Pacific white-sided dolphins, and moderately-highly important for killer whales (higher in winter than spring).
- There is a harbour seal haul-out at east Tree Island (24 seals).
- Nine kelp beds lie within the SA.
- Sei whatle have often been observed feeding among the islands in the summer.
- Good opportunity for scientific research on seabirds.

Vulnerability:

- High vulnerability
- Burrowed areas on dense storm petrel colonies on Storm, Reid and Tree Islands and on the Buckle Group

are fragile and would be easily damaged by human or large mammal traffic.

Recreation/Tourism Values:

- Good seabird watching opportunities; areas for camping are limited, however camping in the Storm group is possible on small pocket beaches on isle #19.
- There is one important marine transportation route which cuts across the northwest tip of the SA.

Cultural Heritage Values:

- To be determined

Land Status:

Timber Harvesting

- No known conflicts.

Mining

- No known conflicts.

Aquaculture/MAFF

- Moderate conflict for wild oysters and marine plants
- Low conflict for aquaculture and agriculture.
- Potential fisheries conflict due to active fisheries within proposed boundaries, including: long-lining for lingcod, halibut, dogfish, perch, yellow-eye and other rockfish; hook and line for yellow-eye, quillback and all other inshore rockfish aggregates; mid-water trawl for pollock.

Tourism

- No conflicts

First Nations

- IR 5 (Ta-a-ack) has been excluded form boundary.

Lands

- Pine Island Lighthouse, is included in the boundary.

ELLERSLIE LAKE/HARBOURS
Kitimat Ranges and Hecate Lowlands Ecosections
Land and freshwater 16,510 ha
Marine waters 405 ha

General Description:

- The Ellerslie is a highly scenic area, dominated by a large, fjord lake with pockets of sandy beaches surrounded by forests at the lower and mid elevations, with some exposed bedrock, avalanche tracks and pockets of tundra at higher elevations. The easternmost arm of the lake is high relief and there are spectacular rock walls in the valley above the east arm. The proposed boundary is intended to capture the immediate watershed of Ellerslie Lake.
- It is located due south of Fiordland Recreation Area, at the head of Spiller Channel.
- This unit is ranked the #3 priority for recreation and tourism within the entire Central Coast planning area.

Naturalness:

- Greater than 75% undisturbed.
- One tributary of Ellerslie Lake may have already been logged, Lot 608 heavily cut.
- Area high graded.

Representativeness:

- The Ellerslie is rated low for ecological representation, but high for representation of recreation/tourism opportunities and values.
- Cryptodepression lake.
- Tidal lagoon below waterfall.

Contribution to Biogeoclimatic Gaps

- 37 ha to gap in AT in the HEL.
- 2,803 ha to gap in CWHvh2 in the HEL.
- 7,140 ha to gap in CWHvm1 in the KIR.

Representation of Priority Biogeoclimatic Units:

Kitimat Ranges

•Represents priority unit CWHvm1 - 7,140 ha

•Represents priority unit CWHvm2 - 2,101 ha

Diversity:

- High biodiversity due to the transition between central submaritime and maritime biogeoclimatic ecosystems.
- Rates high for diversity of recreation values

Viability:

- Rated high, given boundaries follow watershed unit.

Recreation/Tourism Values:

- The Ellerslie is identified by the CCPAT as the #3 priority for recreation and tourism, due to high scenic values, sandy beaches and a diversity of recreational experiences available for tourists, including kayaking, canoeing, angling, camping and hiking.
- Offers safe anchorage in Ellerslie Bay.
- Large waterfalls drain the lake at Ellerslie Bay; the falls are the highest "use" area.
- Easy access to lake and sandy beaches, and there is a trail around a waterfall.
- High potential for wilderness tourism based on kayaking or canoeing.

Significance for Conservation:

- Rated high.

Salmon

- Salmon values are rated moderate; Ellerslie lake is known for its healthy population of trophy-sized cutthroat trout; kokanee salmon in lake; no anadromous salmon.

Coastal Temperate Rainforests

- Low to mid elevation slopes are dominated by Amabilis Fir - Western Redcedar - Western Hemlock forests. These are replaced by Mountain Hemlock - Amabilis Fir -Yellow cedar forests at higher elevations.
- Overall, the forests are considered to be low to moderately productive.

Murrelets

- A WFP wildlife survey of the number of Marbled Murrelets for TFL 25, found the highest concentrations of these birds at Ellerslie Bay (177 were counted).
- Ellerslie Bay is a very important feeding areas for Marbled Murrelets.

Other

- Connectivity with Fiordland Recreation Area
- Occasional herring spawning.

- Good example of high biodiversity due to aquatic influence.

Vulnerability:

- The Ellerslie is moderately vulnerable.
- Plans for roading in '97 and logging in '98 are not yet approved.

Cultural Heritage Values:

- The Ellerslie system has very high cultural heritage significance to the Heiltsuk Nation.
- Some Heiltsuk have consistently expressed their disapproval of any logging developments taking place in this area.
- Cultural material found at Ellerslie Lake/Harbours includes a subsurface shell middens, pictographs, signs of human habitation, human remains burial boxes, a burial site, a plank house, subsistence feature - fish trap, a petroform, a canoe skid, a shed and, subsurface cultural material.
- Pictographs on cliff faces.

Land Status:

Timber Harvesting

- Potential conflict.

Mining

- No known conflicts.

Tourism

- Potential conflict with existing tourism facilities.

First Nations

- Very high potential conflict due to established traplines, fishery, and outstanding salmon enhancement proposal. It is also the location where sockeye meat has been traditionally prepared.

Lands

- Trespass issues to be addressed.
- Private Lot 604 has been excluded from the boundary.
- File 5404364 and 5402938, LoO, by Doman Forest Products have been excluded from the boundary.
- File 5405680, LoO by Little Valley Forest Products, has been excluded,

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HOTSPRINGS
Nortern Pacific Ranges Ecosystem
Land and freshwater 9,796 ha
Marine waters 0 ha

General Description:

- Moderate size, intact watershed along the South Bentinck Arm.

Naturalness:

- Moderate to high, some logging in the 1094's around the hotspring; productive second growth stands.

Representatvieness:

- Representation of CWHms2 in NPR.

Contribution to Biogeoclimatic Unit Gaps:

- 2,936 ha to gap in ATp in the NPR.
- 1,767 ha to gap in CWHms2 in the NPR.
- 81 ha to gap in CWHvm3 in the NPR.
- 1,688 ha to gap in CWHws2 in the NPR.
- 230 ha to gap in MHmm1 in the NPR.
- 3,094 ha to gap MHmm2 in the NPR.

Representation of Priority Biogeoclimatic Units:

- Represents priority unit CWHms2 - 1,767 ha

- Represents priority unit CWHvm3 - 81 ha
- Represents priority unit CWHws2 - 1,688 ha

Diversity:

- High populations of mountain goats
- High biological diversity around hotsprings.
- Heavy waterfowl use of South Bentinck.

Viability:

- Rated high, intact watershed unit.

Recreation/Tourism Values:

- High recreation value due to presence of Talheo Hotsprings.
- Hiking opportunities.
- Aboriginal use.

Significance for Conservation:

- Moderate grizzly values.
- Moderate to high mountain goat values.
- Chosen for representation of ecosection.

Cultural Heritage Values:

- Historic village site.
- Area used by First Nations (sweat lodge near hotsprings), very high First Nations values.

Vulnerability:

- To be determined.

Land Status:

- Potential timber conflicts.
- Timber license

KHUTZE
Kitimat Ranges Ecosection
Land and freshwater 33,978 ha
Marine waters 1,071 ha

General Description:

- The Khutze watershed is a large, intact, primary watershed with very high ecological values, including a large, highly productive estuary, salmon, high concentrations of grizzly bear and old growth temperate rainforests and a high diversity of habitat types.
- The Khutze is ranked as the #4 priority for protection of grizzly/salmon ecosystems within the entire Central Coast planning area.
- The Khutze is located along the east side of the Inside Passage, opposite the mid point of Princess Royal Island, within the Kitimat Ranges (KIR) Ecosection.
- The Khutze is also scenically dramatic due to a complex and rugged topography, large river, estuary and nearby cascading waterfall.
- The Khutze includes a very productive estuary with extensive channels.

Naturalness:

- High degree of naturalness (except in Inlet which has been extensively logged..
- Railway and active mine in 1930s.

Representativeness:

- The Khutze is rated the #1 priority for representation of the KIR.
- Although the KIR has few remaining gaps, due to a high percentage of existing protected area, the extremely high concentration of conservation values of provincial significance in the Khutze justifies its further consideration for protected area status.

Contribution to Biogeoclimatic Gaps:

- 7,269 ha to gap in CWHvm1 in the KIR.

Representation of Priority Biogeoclimatic Units:

•Represents priority unit CWHvm1 - 7,269 ha

•Represents priority unit CWHvm2 - 9,573 ha

Diversity:

- Rated very high for diversity of biophysical features and habitat types

Viability:

- Rated very high due to intact watershed.

Significance for Conservation:

- Rated very high.

Grizzly

- The Khutze is identified as the #4 priority for protection of grizzly bear/salmon system within the entire Central Coast planning area.
- The Khutze estuary has outstanding value as grizzly bear habitat.
- Salmon spawning/bear fishing extensive.
- Part of the largest potential Grizzly Bear Management Area in Coastal B.C. - ecological connectivity with the Kitlope, Fiordland, and Tweedsmuir protected areas to Princess Royal Island.

Salmon

- Chinook, Chum, Coho, Pink and Sockeye are all present, especially East Khutze River and Marshall Creek.
- It is estimated that there are 37,780 salmon in the Khutze River.

Coastal Temperate Rainforests

- Low elevation Sitka spruce.

Estuary

- A rating scheme for B.C.'s major Coastal Wetlands assigned a biological ranking of 9 out of 10.
- The Khutze estuary combines a broad floodplain supporting extensive fertile meadows with dense cover along their edges. A north-facing avalanche chute giving access to alpine habitat lies at the south edge of the estuary.

Murrelets

- At Khutze, morning counts recorded no murrelets

entering the inlet at its upper end and only 11 leaving the mouth of the inlet.
- However, the number of murrelets feeding on the inlet increased from 6 prior to start of the count to over 400 by the end of the survey, suggesting that many murrelets are nesting along the sides of the inlet.

Vulnerability:

- Rated very high; no immediate logging planned, however, within TFL 25.
- Motorized access and hunting may have a significant impact on grizzly bears.

Recreation/Tourism Values:

- This area is a key anchorage adjacent to main Inside Passage route. Very high scenic values and high recreation values.
- Khutze has numerous recreation opportunities including: hotsprings; wildlife viewing ; adventure tourism; kayaking; and canoeing.

Cultural/Heritage Values:

- Fish trap and village site at river mouth.
- Additional values to be determined.

Land Status:

Timber Harvesting

- Within WFP TFL 25
- Only charted at this time.

Mining

- 5 mineral occurrences known, including 2 old past producing gold-silver-copper mines
- Hunter Mine near upper Khutze River has identified ore reserves; covered by Crown granted mineral claims
- Western Mine, East Khutze River, covered by Crown granted mineral claims.
- Mineral potential for eastern portion (40% of area) is rated moderate and for the western portion (60% of area) is rated high.
- Some exploration in the late 80s.

Tourism

- No known conflict.

First Nations

- To be determined

KOEYE
Hecate Lowland and Northern Pacific Ranges Ecosections
Land and freshwater 18,497 ha
Marine waters 55 ha

General Description:

- The Koeye is a largely undisturbed, coastal watershed containing two medium sized freshwater lakes.
- This is a biologically rich area of relatively low relief containing a large estuary, expansive wetlands and unusually productive temperate rainforests for the Hecate Lowlands (HEL) Ecosection supporting provincially significant grizzly/salmon ecosystem.
- The Koeye occurs almost entirely within the HEL, but extends into the Northern Pacific Ranges (NPR) Ecosection, and is located on the east side of Fitz Hugh Sound, due east of Hakai Pass, in Hakai Recreation Area.
- **Koeye Estuary**- productive wetlands with red and blue-listed waterfowl; more productive forest than usual for this ecosection; resulting in high biological diversity; Grizzly bear habitat; and salmonid values.

Naturalness:

- High degree of naturalness.
- About 100 ha lower river selectively logged in 1920's. There was a limestone quarry on Lower Koeye from 1952-76; cabins and equipment remain.
- 30 ha of privately owned land was logged on Koeye Bay in the 1980s.
- New fishing resort on point at the entrance (private lot).

Representativeness:

- The Koeye is identified as the #1 priority for ecological representation of HEL and the #3 priority for protection of grizzly bear/salmon ecosystems within the entire Central Coast planning area.

- Rated high for representation of the estuary to ridge coastal elements of the HEL not seen in other Areas of Interest or Study Areas. Fills major gap in representation of the HEL for coastal temperate rainforest (CWHvh2) and estuaries.

Contribution to Biogeoclimatic Gaps:

•404 ha to gap in AT in the HEL

- 14,793 ha to gap in CWHvh2 in the HEL
- 1,193 ha to gap in MHwh1 in the HEL
- 45 ha to ATp in the NPR.
- 765 ha to gap in CWHvm2 in the NPR
- 550 ha to gap in MHmm1 in the NPR

Representation of Priority Biogeoclimatic Units:

- Represents priority unit CWHvm2 in the NPR - 765 ha.

Diversity:

- High diversity of habitats and biophysical features for the relatively small size of the area.
- Critical habitats (spawning/fishing, estuary, wetlands) well distributed.

Viability:

- Moderate to high viability.

Significance for Conservation:

- Overall conservation value is **very high** due to presence of: intact watershed - old growth temperate rainforest; river and estuary with productive wetlands supporting red and blue-listed waterfowl; high value grizzly bear habitat; very high salmonid values.
- Unique estuary, very early phenology compared to 'inland estuaries' (such as those as the heads of the inlets).
- #1 priority representation of the HEL.

Grizzly Bear

- Intact, outer coastal watershed with fair documentation of value and use by grizzly bears (CHWvh2 extensive).

- Linked to non-wilderness, but nevertheless high grizzly value watersheds such as the Doris/McNair, and over to Milton/Chuckwalla - Kilbella (and into Nootum).
- Fishing by grizzlies well documented.

Salmon

- DFO considers the Koeye a Class 1 river for habitat protection purposes. It has all species of salmon and supports a commercial fishery and a sport fishery.
- Chinook, Chum, Coho, Pink and Sockeye are all present.
- Third highest salmon producer in DFO statistical area 6.
- Local anglers indicate that the Koeye has resident rainbow trout, cutthroat trout, good Steelhead fishing, and good Coho salmon fishing.

Coastal Temperate Rainforest

- High proportion of this watershed is forested
- The forests are more productive than usual for this outer coastal ecosection

Other

- Black bear, wolf, deer, cougar, mountain goat, wolverine, river otter, and fur bearers are also present in the Koeye.
- Red and blue listed waterfowl, such as western grebe, trumpeter swans, and marbled murrelets.
- Koeye Bay important for crabs.

Vulnerability:

- Very high vulnerability due to planned logging
- Existing application for backcountry trail corridor.
- A sport fishing lodge is being built on the private land on Koeye Bay.
- Adjacent watersheds are either already heavily harvested or in the process of being accessed and logged, which may increase pressures on grizzly bear in the Koeye.
- Existing road access, Cold Creek; access issue affects bear values.

Recreation/Tourism Values:

- Section 12 reserve as Boat Haven.
- The white sand beaches that lie at the mouth of the Koeye offer a unique recreation experience.
- This area has been a favorite stopover for kayakers and boaters for many years.
- Sportfishing boats from Hakai Pass make frequent trips from across Fitz Hugh Sound.
- Crab fishing
- There is good sportfishing including trout fishing in the lake. (Recreational fishing could create potential conflict with grizzly bear conservation).
- Guided and unguided sport fishing for cutthroat and steelhead.
- Moderate summer anchorage; small protected anchorage area behind the point. Most of the bay is open to swells from Hakai Pass.
- Excellent wildlife viewing opportunities at estuary.
- Existing fish camp license of occupation on Koeye Lake.

Cultural Heritage Values:

- Four village sites and numerous archaeological sites, including fish traps, are found on the Koeye.
- Culturally Modified Trees can be found throughout the river system.
- Other cultural material found at Koeye includes subsurface shell middens, surface refuse, fencing, signs of historic habituation, and, subsurface Cultural material.

Land Status:

Timber Harvesting

- Blocks and roads have been engineered.
- Part of MB's Block 7 of TFL 39.
- Roading and harvesting has been deferred since 1991 due to study area status (Old growth deferral and PAS official Study Areas).

Mining

- No short term conflicts/tenures
- Moderate mineral potential (but poorly known); 1 limestone deposit, quarried in past

Tourism

- Commercial backcountry recreation application in progress.

First Nations

- There are Heiltsuk First Nation issues that need to be addressed.

Lands

- 4 private lots; 2 currently for sale, 1 on Koeye Bay.
- License of Occupation (fish camp operation) on Koeye Lake.
- Good 1:20,000 habitat mapping exists (MELP); presently being converted to T.E.M. (RIC Standard)
- Resort and marina proposed for Lot 1330.

SMOKEHOUSE Northern Pacific Ranges Ecosections Land and freshwater 38,609 ha Marine waters 0 ha

General Description:

- This proposal encompasses a unique watersheds, the Smokehouse, considered to be on the "wetter end" of coastal grizzly bear areas.
- This unit is ranked #1 priority for representation of the Northern Pacific Ranges (NPR) Ecosection and #5 priority for protection of grizzly/salmon ecosystems for the entire Central Coast planning area.
- The Smokehouse watershed is very long and narrow capturing a range of ecosystems from estuary to alpine tundra, and includes all of long lake, a fjord like lake with very high salmon values.

Naturalness:

- High degree of naturalness, but slightly modified along Long Lake which was A-frame logged in 1962-66.

Representativeness:

- Smokehouse is the #1 priority for ecological representation in the NPR, due to very high representation of all of the low to high elevation biogeoclimatic units and moderate representation of the biophysical features of this ecosection.

- It fills the following gaps in the NPR: complete multi-watershed grizzly bear/salmon ecosystem; lakes; old growth forests (all types); sitka spruce forest; wetlands; floodplains; estuaries.

Contribution to Biogeoclimatic Gaps:

- 7,965 ha to gap in ATp in the NPR
- 9,040 ha to gap in CWHvm1 in the NPR
- 10,365 ha to gap in CWHvm2 in the NPR
- 8,790 ha to gap in MHmm1 in the NPR

Representation of Priority Biogeoclimatic Units:

- Represents priority unit CWHvm1 - 9,040 ha
- Represents priority unit CWHvm2 - 10,365 ha

Diversity:

- Rated very high for biological diversity.

Viability:

- High viability

Significance for Conservation:

- Rated high to very high.

Grizzly

- Smokehouse is the #5 priority for protection of grizzly/salmon ecosystems within the Central Coast planning area.
- High grizzly bear values due to productive diversity of bear habitats; high spring and fall grizzly bear use; extensive bear salmon fishing.
- Large run of Sockeye salmon is an important food source for grizzly bears
- Collectively the Smokehouse, Waump, Piper, Lockhart Gordon, Johnston, and Sandell watersheds are large enough to form the core of a Grizzly Bear Conservation Area.
- Good linkage for bear from Smokehouse to Neechantz.

Salmon

- Chinook salmon spawn in Long lake, primarily at the "narrows"; Dolly Varden present.
- The Sierra Club of B.C., believes that the assessment of salmon runs in Smokehouse are poorly monitored, and that the values are high.
- Local angler indicated that Coho are numerous, which contradicts DFO data. Estimated Coho salmon population is 1000+.
- DFO has counting, fenced station at the outflow of the lake.

Vulnerability:

- Very high vulnerability.
- No immediate logging planned; MacMillan Bloedel owns a small TL in the Smokehouse. Remainder of watershed untenured.

Recreation/Tourism Values:

- Rated moderate.
- Potential future use as wilderness-based experience including canoeing, kayaking, nature appreciation, camping, hiking and photography.
- Present tourism use includes heli-fishing for trout, Steelhead, and Coho.

Cultural Heritage Values:

- To be determined

Land Status:

Timber Harvesting

- Existing MB TL in Smokehouse

Mining

- No tenures or mineral occurrences
- Moderate mineral potential (poorly known); geology is favourable for mineralization in places

Tourism

- No known conflicts.

First Nations

- Potential high conflict with Gwa'Sala Nakwaxda'wx
- MoF First Nations deferral for Smokehouse/Canoe portions; Gwa'Sala not opposed to logging, but want economic development opportunities and employment.

SPIRIT BEAR
Hecate Lowlands and Kitimat Ranges Ecosections
Land and freshwater 78,474 ha
Marine waters 7,093 ha

General Description:

- The Spirit Bear proposal is a large area centered on Laredo Inlet, a long protected inlet on Princess Royal Island, and all of the main drainages that flow into it. Its eastern boundary fronts the Inside Passage marine route.
- The area encompasses Canoona lake and many small estuaries, wetlands, floodplain, and avalanche chute habitats especially valuable in late spring to wildlife.
- Princess Royal Island is inhabited by the Kermode bear, a white phase of the black bear, and appears to have a higher occurrences of these animals than neighboring areas.
- This proposal occurs in both the Hecate Lowlands (HEL) and Kitimat Ranges (KIR) Ecosections, and provides good representation of this transition.

Naturalness:

- High degree of naturalness; unroaded wilderness with only slight human modification.

Representative:

- Spirit Bear is the #2 priority for ecological representation in the HEL.
- The area is rated high for representation of the HEL, but low for the KIR. Forests are generally low productivity.
- Spirit bear contributes to filling the following gaps in representation of the HEL; island ecosystem; bogs and fens (muskeg); fjord inlets; estuaries; old growth, coastal temperate rainforest.

Contribution to Biogeoclimatic Gaps:

- 27,447 ha to gap in CWHvh2 in the HEL.
- 918 ha to gap in the MHwh1 in the HEL.
- 32,349 ha to gap in CWHvm1 in the KIR.

Representation of Priority Biogeoclimatic Units:

In the Kitimat Ranges:

- Represents priority unit CWHvm - 3,460 ha
- Represents priority unit CWHvm1 - 32,349 ha
- Represents priority unit CWHvm2 - 8,586 ha

Diversity:

- Diversity is rates as high; diversity is enhances by overlap of two ecosections.

Viability:

- Rated moderate - high.

Significance of Conservation:

Kermode Bears

- Kermode Bears (a rare white phase of black bear) are found in Spirit Bear. Their range can be described as a triangle running from Princess Royal Island north to Prince Rupert and then east to Hazelton, with known concentrations around Terrace and especially Princess Royal Island.
- Spirit Bear is the only PAS proposal with known occurrences of the Kermode bear.
- On Princess Royal Island that are about 5-15 white coats out of a population of 135 bears.
- In the past few years articles on the bears have appeared in several publications, such as *Beautiful British Columbia*. A documentary film on the Kermode bears has been shown on the BBC, B.C.'s Knowledge Network and on PBS in the U.S.
- There is good potential for viewing Kermode bears and other wildlife along Laredo Inlet.

Salmon

- Rate high for salmon values

Murrelets

- Laredo inlet is an important feeding site for Murrelets.

Bald Eagles

- Increased abundance of nests along Laredo Inlet.

Other

- Potential for ecological connectivity with Kitlope and Fiordland through the Khutze and Green watersheds.
- Grizzly bears have been sighted within this Study Area.

Vulnerability:

- Vulnerability is rated high.

Recreation/Tourism Values:

- Recreation value is moderate-high.
- Representation of outer coast settings, including protected fjord with good anchorages (Laredo Inlet), upland lakes, forested slopes; and special features.
- Good opportunities for wildlife viewing, fishing, boating, sea kayaking.

Cultural Heritage Values:

- Cultural heritage sites; fishing, gathering
- Legends associated with Kermode Bear.
- Cultural material found at Spirit Bear includes signs of human habitation, refuge, a platform, a petroform, a canoe skid, fish traps and subsistence features.

Land Status:

Timber Harvesting

- No current development plans; initial engineering only.

Mining

- 1 known gold prospect on northern boundary covered by Crown Granted mineral claims
- Mineral potential is moderate for the southern half and high for the northern half of the proposal. Past producer, Surf inlet gold mine located just outside

boundary to the west; fault zone containing the mine has high potential and extends across the area.

Aquaculture/MAFF

- Low conflict

Tourism

- No conflict.

First Nations

- High potential for conflict with First Nations; IR 10 (Fifer Cove); IR 11 (Buie Creek); IR 9 (Powles Creek); IR 2 (Canoona Lake).

UPPER KIMSQUIT
Kitimat Ranges Ecosection
Land and freshwater 10,652 ha
Marine waters 0 ha

General Description:

- Kimsquit Lake is the beginning of the Kimsquit River at the head of the Kimsquit Watershed.
- The area encompasses unique grizzly bear habitat features not found anywhere else in the province.

Naturalness:

- This area is intact.

Representatvieness:

- CWHws2 priority for ecosystem representation.

Diversity:

- Rated very high for biological diversity of biophysical features and habitat types.

Viability:

- Rated high, this portion of the watershed is intact.

Recreation/Tourism Values:

- To be determined.

Significance for Conservation:

- Unique grizzly/salmon features found nowhere else in the province.
- Dear, and goat use is very extensive.
- Low elevation pass to Kitlope at Kimsquit Lake.
- Upper Kimsquit is one of the few coastal drainages that supports resident coastal moose populations.
- Ecological connectivity with Kitlope, Fiordland and Tweedsmuir areas to Princess Royal Island.
- The entire drainage system represents the transition from south ecosystems and north ecosystems and the division between coastal and interior ecosystems in B.C.
- Very high biodiversity due to this transition.
- The entire drainage system is one of the highest ranked watershed/drainages for biodiversity on the Central Coast.

Cultural Heritage:

- First Nation grease trail to Kitlope.

Vulnerability:

- This area is vulnerable to logging and mining.

Land Status:

- Potential timber conflicts.

[Central Coast Reports]

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APPENDIX VI: REVISED GOAL 2 STUDY AREA DESCRIPTIONS

Primarily RECREATION and CULTURAL HERITAGE

- Barnard Harbour
- Boat Bay
- Burdwood Group
- Cann Inlet
- Carter Bay
- Codville Extension
- Cranstown Point
- Cullen Harbour
- Emily Carr Inlet
- Eucott Bay
- Forward Harbour
- Fougnar Bay (Namu)
- Goat Cove
- Grant Anchorage (Swindle Island)
- Laidlaw/Aitken Island
- Oliver Cove
- Polkinghorn
- Port John Archaeological Site
- Racey Inlet
- Rescue Bay
- Restoration Bay
- Smithers Island
- Swanson Bay
- Takush Harbour
- Thorsen Creek.
- Thurston Bay Extension
- Troup Passage
- Yorke Island

BARNARD HARBOUR

Hecate Lowlands Ecosection Land and freshwater 1,021 ha Marine waters portion 168 ha

General Description:

- This area encompasses Barnard Harbour and the small associated drainage and contains waterfalls/rapids and mudflats.

Conservation Values:

- Area is rated as biologically exceptional.
- High fish/wildlife use of this small drainage.
- There are seasonal concentrations of black bear and eagles.

Recreation/Tourism Values:

- A very important and strategic anchorage.
- Rated high for the following recreation attributes: rarity/scarcity/uniqueness, use/ appreciation and demand - medium for variety.

- Registered boat haven/anchorage and excellent wildlife viewing.
- Well-used base for sportsfishing at the salmon head into the Douglas Channel.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 584 ha to CWHvh2 gap in the HEL.
- 437 ha to MHwh1 gap in the HEL.

Land Status:

Mining

- There is an existing claim - black granite quarry in harbour.

First Nations

- First Nations were formally opposed to mining but may now be supportive.

Lands

- I.R. 7 (Lot 2230) has been excluded from the boundary.
- Floating fish camp/lodge (seasonal)
- It is an existing BC Parks UREP (est. 1988)

BOAT BAY
BOAT BAY
Land and freshwater 625 ha
Marine waters portion 675 ha

General Description:

- A small area along the southwest side of West Cracroft Isalnd, fronting Johstone Strait.
- Located directly across from the Robson Bight Ecological Reserve.

Recreation/Tourism Values:

•#5 recreation priority for Central Coast planning area.

- If managed to optimize Killer Whale visitor use, this area could deflect some of the use from Robson Bight ER.
- Park Status for Boat Bay recommended by Johnstone Strait Killer Whale Committee to provide viewing area of the Bight, without disturbing the whales.
- Tourism use and its future potential are both very high.
- Protected anchorage across from Robson Bight.
- Tourism uses include recreational boating, fishing, wildlife viewing, and enjoying scenic intertidal beach.
- Existing organized kayak groups are interested in this area.
- In an approved BC Parks sub-regional plan

Cultural Heritage Values:

- A moderately important aboriginal and sport crab fishery occurs within part of the SA.

Conservation Values:

- This area is important for killer whales (proximity to

Robson Bight), harbour porpoises, Dall's porpoise and Pacific white-sided dolphins. Humpback whales may be present between January and April.

- Eagles and marbled murrelets utilize the area, and a portion of the SA is moderately important for pelagic seabirds (captures part of 3800+ red-necked phalarope distribution).
- An important kelp bed covers approximately 10% of the SA.

Contribution to Ecosystem Representation:

- 625ha to CWHvm1 gap in the OUF

Land Status:

- TimberWest's cutblocks 2-42 and 2-42A and the planned extension to an existing road to access 2-42 have been excluded.

BURDWOOD GROUP
Outer Fiordland Ecosection
Land and freshwater 125 ha
Marine water portions 419 ha

General Description:

- A small group of islands located North of Broughton Rain Park.
- Identified in Forest Services Recreation plan as part of the marine trails system snchorages.

Recreation/Tourism Values:

- Provides sheltered anchorages to those boaters circumnavigating Broughton Island.
- Boating, fishing, wildelife veiwing opportunities.
- Rocky Island shoreline and intertidal beach.
- Toursim use and potential very high.
- There is one main marine transportation route through the northwest, one important kayak route around the SA's perimeter, and 2 campsites (one moderate, one highly important).

Cultural Heritage Values:

- High cultural heritage values, there are nine archaeological sites identified.

- Approximately 15-20 % of the SA is highly productive for butter and littleneck clams, which supports an important aboriginal fishery.

Conservation Values:

- This area is important for harbour porpoises and Pacific white-sided dolphins, and moderately important for killer whales.
- Humpback whales may be present between January and April.
- The entire Study Area is important for eagles, and is possibly utilized by shorebirds.
- There is one medium sized kelp bed in the southwestern corner.

Contribution to Ecosystem Representation:

- 125 ha to the CWHvm1 gap in the OUF.

Land Status:

Lands

- File#1406650, License of Occupation, by BC Packers, for aquaculture, until 2005/05/25. This section has been excluded from the boundary.
- Res. #0288786, Notation of Interest, Ministry of Small Business, Tourism and Culture.

Aquaculture

- Moderate conflicts.

CANN INLET
Hecate Lowland Ecosection
Land and freshwater 394 ha
Marine water portions 172 ha

General Description:

- A popular, well-used anchorage on the west side of Swindle Island. Lakes drain via impressive waterfalls on the north side.

Conservation Values:

- Salmonid streams.
- Herring spawning.

Recreation/Tourism Values:

- The inlet is very well protected.
- There is a water supply pipe along the entrance wall.
- There is already a registered boat haven over part of the inlet.
- Opportunities for scenic viewing, and shoreline exploration.

- Provides a convenient anchorage en route to Spirit Bear.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 394 ha to the CWHvh2 gap in the HEL.

Land Status:

Lands

- Lot 1357, IR 7, this section has been excluded from boundary.
- File #6405459, Notation of Interest, by BC Parks

CARTER BAY
Kitimat Ranges Ecosection
Land and freshwater 261 ha
Marine water portions 145 ha

General Description:

- An open, south-facing bay, with an extensive estuary.
- The bow of the 'Ohio' can be seen above the water.

Conservation Values:

- The southern, deeper areas of the SA are important for dall's porpoises and of moderate importance for killer whales and humpback whales.
- Carter Creek is an important salmon stream..

Recreation/Tourism Values:

- A notable feature is the wreck of the 'Ohio' dating to 1909. The wreck is a popular diving site.

- There is no suitable anchorage because of the southern exposure, but the bay is an obvious point of interest for boaters traveling Sheep Pass to and from Fjiordland.
- Carter Creek can be ascended a short way by skiff, to a large, impressive waterfall.
- Fishing opportunities.
- There is a moderate use anchorage, and a moderate-high use marine transportation route into the bay.

Cultural Heritage Values:

- The bay has an historical association with Vancouver. It is named for John Carter, a crew members who was buried here in 1793.
- The wreck of the SS Ohio comprises the single cultural site within the SA.

Contribution to Ecosystem Representation:

- 256 ha to the CWHvm1 gap in the KIR.
- 6 ha to Lakes.

Land Status:

- Small Business Administration Area (A34845F).

CODVILLE EXTENSION
Hecate Lowlands Ecosection
Land and freshwater 1,225 ha
Marine waters portion 0 ha

General Description:

- This area is an extension to the existing Codville Lagoon Marine Park (1,455 ha), to include Sagar Lake.

Recreation/Tourism Values:

- Provides good anchorage
- This area is a harbour of refuge and a traditional anchorage.
- Codville has a beach area, serves as a destination

waypoint, and has fresh water.

- Existing trail provide easy access to Sagar Lake; the Lake has a fine red-sand beach with high recreation potential.

- Areas well-used by residents of Ocean falls in the past.

Cultural Heritage:

- Pictographs
- Former defensive site on island.

Conservation Values:

- To be determined.

Contribution to Ecosystem Representation:

- 1,054 to CWHvh2 gap in the OUF.
- 151 ha to Lakes gap in the OUF.

Land Status:

Timber Harvesting

- None

First Nations

- Potential to be high

Lands

- No known conflict.

CRANSTOWN POINT
Hecate Lowland Ecosection
Land and freshwater 117 ha
Marine water portions 197 ha

General Description:

- A small peninsula with sand beaches on each side and another further to the east.

Conservation Values:

- To be determined.

Recreation/Tourism Values:

- A very popular kayaking site, strategically located at the south entrance to Rivers Inlet.
- Water supply available, an ideal campsite.
- Day use for visits by fishing charters from lodges in Rivers Inlet.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 117 ha to the CWHvm2 in the HEL.

Land Status:

- File #5403338, Notation of Interest, by BC Parks for Marine Park purposes.

CULLEN HARBOUR
Outer Fiordland Ecosection
Land and freshwater 224 ha
Marine water portion 388 ha

General Description:

- A shletered anchorage located south of Broughton Isalnd
- Cullen Harbour is locted at the entrance to Booker Laggon.

Conservation Values:

- High marine invertebrate life values.
- High potential for scientific research.
- This area is important for harbour porpoises, Dall's porpoise and Pacific white-sided dolphins, and is moderately important for killer whales. Humpback whales may be present between January and April.
- Eagles and marbled murrelets utilize the area. A large portion of the SA is moderately important for alcids (flocks of Rhinoceros auklets in summer from colonies).

- A moderate size kelp bed covers approximately 5% of the SA.

Recreation/Tourism Values:

- Provides sheltered anchorage for boaters circumnavigating Broughton Island.
- Rocky island shoreline.
- One marine transportation route, one medium important kayak route (southern portion of area), and an important kayak campsite are found within the area.

Cultural Heritage Values:

- Rated very high.
- There is one archaeological area within the SA, with 6 other areas outside of the area.

Contribution to Ecosystem Representation:

- 224 ha to the CWHvm1 gaps in the OUF.

Land Status:

Aquaculture

- First Nations interest in shellfish culture.

EMILY CARR INLET
Hecate Lowlands Ecosection
Land and freshwater 971 ha
Marine waters portion 958 ha

General Description:

- An area of conservation and recreation interest on the Northwest coast of Princess Royal Island.
- The bays, inlets and small islands provide shletered anchorage and are popular with divers and kayakers.
- Much of the area consists of limestone, with karst features andcaliphile plant communities.

Conservation Values:

- There are biologically and physically exceptional features at this site, including old-growth forest on limestone bedrock with unique/rare plant

communities/species
- Sightings of Kermode Bears on southernmost islands.

Recreation/Tourism Values:

- Recreational opportunities are rated moderate in terms of rarity, scarcity and uniqueness.
- Recreational opportunities are high for use/appreciation, demand and variety
- Diving (around islets).
- Potential caving activity.
- Emily Carr Inlet is a registered boat haven/anchorage, as well as an excellent site for camping wildlife viewing, sportsfishing, kayaking and diving.

Cultural Heritage Values:

- Cultural material found at Emily Carr Inlet includes historic signs of human habitation, a plank house, a petroform, a canoe skid and a shed

Contribution to Ecosystem Representation:

- 903 ha to CWHvh2 gap in the HEL.
- 67 ha to Lakes.

Land Status:

Timber Harvesting

- Interfor (A16841): within five-year Development Plan nothing planned until 2001)

EUCOTT BAY
Kitimat Ranges Ecosection
Land and freshwater 140 ha
Marine waters portion 91 ha

General Description:

- Proposed primarily as a safe anchorage site on Dean Channel and hotsrpings.
- 50% of upland surrounding the bay is private.
- Large portion logged, but could green up quite nicely and create a natural looking anchorage

Recreation/Tourism Values:

- Good anchorage.
- This area is a harbour of refuge and a traditional anchorage.
- Eucott Bay has a traditional beach area, serves as a destination waypoint, and is accessible by land.
- This area is further enhanced by hotsprings.
- Old development (e.g. pipes, tub, and remains of old wharf)

Cultural Heritage Values:

- Unknown, but likely high given the hotsprings, estuary, and sheltered bay.

Conservation Values:

- Small estuaries.

Contribution to Ecosystem Representation:

- 129 ha to CWHms2 gap in the KIR.
- 10 ha to CWHvm3 gap in the KIR.

Land Status:

Timber Harvesting

- Net area 26 ha and net volume of 15,248. **Lands**
- L11, 10, 9 and 1012 are private and excluded from boundary.
- Colloidal clay tenure currently being transferred from Lands to Mines due to a change in the mineral act.

Parks

- Foreshore and Bay have been identified as a boat haven (Section 12).

FORWARD HARBOUR
Outer Fiordland Ecosection
Land and freshwater 409 ha
Marine waters portion 270 ha

General Description:

- This area is an existing PAS study area.

Recreation/Tourism Values:

- Tourism use and potential is very high.
- Channel is primary link in the Inside Passage Marine Travel Route, and as such is critical for boating utilization.
- One of the safest anchorage along this portion of the Route.
- Good anchorage and upland access to old growth forest.
- Popular sport-fishing area.
- Dramatic steep sided, narrow passage.
- Area of greatest value is little bay tucked behind Thynne Point.

Cultural Heritage Values:

- Opportunities for interpreting cultural heritage as well as education and wildlife viewing
- Archaeological sites at head of the harbour.
- Cultural material found at Forward Harbour includes subsurface shell middens, and cultural material - subsurface and surface.

Conservation Values:

Salmon

- Wortley Creek, which is fed by several small creeks, has a large pink salmon run for its size and substantial chum and coho runs.

Waterfowl

- Head of Forward Harbour is important for waterfowl; conservation value rated high.

Contribution to Ecosystem Representation:

- 409 ha to CWHvm1 gap in the OUF.

Land Status:

- No known conflicts.

FOUGNAR BAY
Hecate Lowland Ecosection

Land and freshwater 416 ha
Marine waters portion 175 ha

General Description:

•Fougnar Bay is a large bay dotted with small islands.

Recreation/Tourism Values:

- Fougnar Bay is susceptible to outflow winds; However, it may not be limited as an anchorage if a few can bouys are added.
- A difficult entrance, but strategically located at entrance to Burke Channel.

Cultural Heritage Values:

- Opportunities for interpreting cultural heritage as well as education and wildlife viewing.
- Cultural material found at Fougnar Bay a subsurface shell middens, and subsurface cultural material.

Conservation Values:

- To be determined.

Contribution to Ecosystem Representation:

- 416 ha to CWHvh2 gap in the HEL.

Land Status:

Lands

- Boat Haven Section 12 established for BC Parks
- Small Business Administration Area (A49483F) with blocks planned and some areas already logged.
- Existing UREP and PAS Study Area

GOAT COVE
Hecate Lowland Ecosection
Land and freshwater 223 ha
Marine water portions 72 ha

General Description:

- An attractive steep-walled bay, used as the anchorage by divers visiting the "Ohio" in Carter Bay.
- Strategic location at the head of Finlayson Channel, at the junction with Sheep Pass.

Conservation Values:

- To be determined.

Recreation/Tourism Values:

- Popular with divers
- A little deep and subject to some wind funneling, but generally a fair anchorage.
- Can be used as base for exploring Carter Bay.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem representation:

- 223 ha to the CWHvh2 gap in the HEL.

Land Status:

- Located within WFP's TFL 25.

GRANT ANCHORAGE
Hecate Lowland Ecosection
Land and freshwater 797 ha
Marine water portions 1,074

General Description:

- The peninsula extends into Laredo Sound like a northern version of Brooks Peninsula.
- The southern shore has a complex mix of reefs, islets, pocket beaches, tiny sheltered bays and rich intertidal marine life. The eastern end is more sheltered and provides anchorage for small boats.

Conservation Values:

- Contains high herring spawning values.

Recreation/Tourism Values:

- Popular with kayakers and campers.
- Pocket beaches, opportunities for beach combing and shoreline exploration.
- Small boat anchorage.

Cultural Heritage:

- Structural remains from a prehistoric house was recovered from Grant Anchorage.
- The remains include two charred wooden board features and another feature of badly decayed boards.

Contribution to Ecosystem Representation:

- 794 ha in the CWHvh2 gap in the HEL.
- 3 ha to Lakes.

Land Status:

- Lot 1722 is private land. This section has been excluded from the boundary.

LAIDLAW/AITKEN ISLANDS
Hecate Lowland Ecosection
Land and freshwater 32 ha
Marine water portions 426 ha

General Description:

- Adjacent to Spirit Bear, at the entrance to Laredo Inlet.

Conservation Values:

- Unknown, possibility of seabird nesting, and intertidal features.

Recreation/Tourism Values:

- Recommended by kayakers.
- Opportunities for camping and shoreline exploration.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 32 ha to the CWHvh2 gap in the HEL.

Land Status:

- No tenures, vacant crown land (BC Lands)

OLIVER COVE
Hecate Lowlands Ecosection
Land and freshwater 3,441 ha
Marine waters portion 2,769 ha

General Description:

- Major expansion to existing Oliver Cove Marine park
- Expansion to include lake system behind the cove and the part of the passage
- AOI surrounds Ivory Point Light Station

Recreation/Tourism Values:

- There is a hiking trail along Oliver Creek
- Oliver Cove serves as a boating destination.
- There are five moderate to high use anchorages in the study area, and many marine transportation routes.
- Cultural material found at Oliver Cove includes subsurface shell middens, lithics, an obsidian and surface cultural material

Cultural Heritage Values:

- There are seven archaeological sites, and

the Porter Reef shipwreck occurs just south of the SA.

Conservation Values:

- High fisheries values in this area
- Oliver Creek is surrounded by old-growth western hemlock, amabilis fir and western red cedar forest
- This area is ranked as moderate to high importance for killer whales, with the southern areas more important.
- The area is also ranked medium importance for humpback whales, and the deeper edges of the SA are ranked important for dall's porpoises.

Contribution to Ecosystem Representation:

- 3,359 ha to CWHvh2 gap in the HEL.
- 82 ha to Lakes.

Land Status:

Timber Harvesting

- Net area is 43 ha and net volume is 27,352

Lands

- File #5404858, Section 13 (designated use) for log storage, this portion has been excluded from the boundary.
- Section 12 Boat haven for BC Parks file 5405476

POLKINGHORN
Outer Fiordland and QCT Ecosections
Land and freshwater 149 ha
Marine water portions 321 ha

General Description:

- A group of small islands west of Broughton Islands in Queen Charlotte Sound.

Conservation Values:

- This area is important for harbour porpoises throughout roughly 50% of the SA, and moderately important for killer whales. Humpback whales may be present between January and April.
- Eagles utilize this area, and the entire SA is of medium importance for marbled murrelets.

Recreation/Tourism Values:

- Tourism potential high, present tourism use moderate.
- Sheltered anchorages.

- There is a marine transportation route of moderate importance, which links to a highly important main route. A moderately important anchorage covers a significant portion (40%) of the AOI. There is a single important kayak route along the eastern edge of the AOI, and one highly rated kayak campsite area.

Cultural Heritage Values:

- Rated high.
- High potential for archaeological sites, possibly a burial island.

Contribution to Ecosystem Representation:

- 149 ha in CWHvm1 gaps in the OUF.

Land Status:

- No known conflicts.

PORT JOHN ARCHAEOLOGICAL SITE
Hecate Lowland Ecosection
Land and freshwater 28 ha
Marine water portions 0 ha

General Description:

- Port John Archeaological Site has a large, prominent cliff, with extensive displays of pictographs along the base and two panels high on the cliff.

Conservation Values:

- To be determined.

Recreation/Tourism Values:

- Opportunity for cultural appreciation, but site is sensitive, and there is no boat anchorage.

Cultural Heritage Values:

- A superb display of pictographs, probably the largest and best on the B.C. Coast.
- There are other archaeological features in the area, including a burial cave.

Contribution to Ecosystem Representation:

- 28 ha to the CWHvh2 gap in the HEL.

Land Status:

- This site must be managed is co-operation with First Nations.

RACEY INLET
Hecate Lowland Ecosection
Land and freshwater 291 ha
Marine waters portion 239 ha

General Description:

- Racey Inlet is a small inlet with scenic waterfalls

Conservation Values:

- Conservation rating is high.

Recreation/Tourism Values:

- Racey Inlet has a high rating for the variety of recreation opportunities if provides.
- It is rated moderate for rarity/scarcity/uniqueness, use/ appreciation and demand
- This area is a registered boat haven/ anchorage and provides good hiking opportunities.

- There is a trail to the waterfall draining Archie Lake.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 289 ha to CWHvh2 gap in HEL.
- 3 ha to Lakes.

Land Status:

Lands

- Carne Bay - anchorage Section 12 map reserve.

RESCUE BAY
Hecate Lowland Ecosection
Land and freshwater 241 ha

Marine waters portion 121 ha

General Description:

- Adjacent to existing Jackson Narrows Marine Park.

Recreation/Tourism Values:

- Very good anchorage with freshwater
- Very good boat haven and is rich in crabs

Cultural Heritage Values:

- Cultural material found at Rescue Bay includes a shell middens and subsurface cultural material.

Conservation Values:

- To be determined.

Contribution to Ecosystem Representation:

- 241 ha to CWHvh2 gap in the HEL

Land Status:

Timber Harvesting

- Rescue Bay serves as a log storage and handling area

RESTORATION BAY
Hecate Lowland Ecosection
Land and freshwater 714 ha
Marine water portions 272 ha

General Description:

- Long curving beach, located along Burke Channel
- Important historic site
- Existing UREP and PAS Study Area

Recreation/Tourism Values:

- Restoration Bay is rated # 6 priority for the Central Coast Plan Area.
- The bay's high natural values include whale watching,

isthmus, long cobble beaches and scenic views.
- The bay has a traditional beach area, which serves as a destination waypoint, and is accessible by land.

Conservation Values:

Estuary

- High valued Quatlena Estuary is located adjacent to Restoration Bay.

Cultural Heritage Values:

- Used and named by Captain Vancouver in 1793.
- Archaeological site - old village.

Contribution to Ecosystem Representation:

- 714 ha to CWHvh2 gap in the HEL.

Land Status:

Timber Harvesting

- Roading and harvesting are both taking place now in adjacent Kwatna estuary.

SMITHERS ISLAND
Hecate Lowland Ecosection
Land and freshwater 60 ha
Marine water portions 46 ha

General Description:

- Smithers Island provides anchorage and shelter for small craft.
- There is a bight on the south shore.

Conservation Values:

- The bight is narrow and with sheer cliffs crowded with intertidal snails.
- The bight is also frequented by seals and otters.

Recreation/Tourism Values:

- The bight provides recreational anchorage.

- There is also a smaller bay on the east shore of the island that provides boat shelter.
- Registered boast haven/anchorage.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 60 ha to the CHWvh2 gap in the HEL.

Land Status:

- No known conflicts.

SWANSON BAY
Northern Pacific Ranges Ecosection
Land and freshwater 43 ha
Marine water portions 42 ha

General Description:

- This area is of historical interest as the site of the first pulp mill in British Columbia. Ruins of the building still remain.

Conservation Values:

- To be determined.

Recreation/Tourism Values:

- Good anchorage.
- Site is highly rated for rare/scarce unique recreation features; moderate for variety, demand and use/appreciation.

Cultural Heritage Values:

- Historic site - first pulp mill in BC; old buildings (pulp license from 1908).

Contribution to Ecosystem Representation:

- 43 ha to the CWHvm1 gap in the KIR.

Land Status:

- No known conflicts.

TAKUSH HARBOUR Hecate Lowland Ecosection Land and freshwater 1,770 ha Marine waters portion 652 ha

General Description:

- An intricate harbour situated at the entrance to Smith Sound.

Recreation/Tourism Values:

- Essential anchorage for going around Cape Caution.
- Good anchorage, and upland access to old growth forest.
- Good area for shoreline exploration.

Cultural Heritage Values:

- There is a winter village in this area.
- Opportunities for interpreting cultural heritage as well as education and wildlife viewing.
- Cultural material found at Takush Harbour includes historic First Nations human remains, a grave house, subsurface shell middens, lithics, maul and surface cultural material. (not accessible to public)

Conservation Values:

Estuary

- High estuary values

Birds

- Records of trumpeter swans over-wintering and expected use by red-breasted merganser {red-listed species}, great blue heron and Pacific loon.

Other

- Herring spawning.

Contribution to Ecosystem Representation:

- 1,770 ha to CWHvh1 gap in the HEL.

Land Status:

Timber Harvesting

- The harbour serves as a storage and handling area.
- Watershed is mostly non-commercial forest or bog.
- Logging has taken place within Study Area.

Lands

- Lot 107 is private land (Euro Pacific)
- License of occupation for foreshore use by fishing camp and is excluded.

THORSEN CREEK
Kitimat Ranges Ecosection
Land and freshwater 9 ha
Marine water portions 0 ha

General Description:

- A superb, extensive collection of Petroglyphs in an old growth forest, next to an impressive waterfall.

Conservation Values:

- To be determined.

Recreation/Tourism Values:

- Opportunity for cultural appreciation.

Cultural Heritage Values:

- Petroglyphs

Contribution to Ecosystem Representation:

- 9 ha to the CWHds2 gap in the KIR.

Land Status:

- Petroglyphs are carefully protected by the Nuxalk

people and must be managed in cooperation with them.
- There is UREP over the site

Lands

- No conflicts (BC Lands).
- UREP for BC Parks.

THURSTON BAY EXTENSION
Outer Fiordland Ecosection
Land and freshwater 202 ha
Marine waters portion 662 ha

General Description:

- Extension to the existing Thurston Bay Park.
- Area of interest identified by Vancouver Island RPAT.
- Includes large lake (Florence Lake) which has timber recovery program.
- Florence Lake of marginal value, important values are near the existing park and the associated coves and bays.

Recreation/Tourism Values:

- Current tourism use and potential are both very high
- Area provides good anchorage, visual protection and an existing trail system.

Cultural Heritage Values:

- Archaeological sites have been identified and high potential for additional sites
- Cultural material found at Thurston Bay includes shell middens, and subsurface cultural material

Conservation Values:

- To be determined.

Contribution to Ecosystem Representation:

- 202 ha to CWHxm2 gap in the OUF

Land Status:

Aquaculture/MAFF

- High conflict for finfish and shellfish tenures

Lands

- Res # 1404493, UREP, BC Parks.
- Timberwest Forest Ltd. is the registered owner of Lot 1142 and Lot 1130. These sections have been excluded from the boundary.
- File # 1405768, Licence of Occupation, by Nor Am Aquaculture Ltd, until 2000/05/31. This section has been excluded from the boundary.
- File # 1403149, Lease, by Owen and Block, until 1997/04/03. This section has been excluded from the boundary.
- Lot 1137, Block A is private land. This section has been excluded from the boundary.

TROUP PASSAGE

Hecate Lowland Ecosection
Land and freshwater 2,913 ha
Marine waters portion 1,732 ha

General Description:

- Portion of this area is an existing PAS Study Area

Recreation/Tourism Values:

- Very high recreation potential as a boating/kayaking destination, due to highly scenic, intricate shoreline with multiple bays, channels, narrows and islands.
- Fresh water lake adds to features and interest.
- Good anchorage sites.
- There is a campsite with a water supply available for kayakers.
- There is rich marine life in the narrows with diving opportunities.
- Possible trail to Webster Lake.

Cultural Heritage Values:

- High cultural heritage values, including a midden, long house remains and standing totem poles, fish traps and pictographs.

- Heritage feature (fishing weir) in stream leaving lake.
- Large intertidal stone fish trap.

Conservation Values:

- Extensive anemone beds along the rock walls at the narrows.
- Rich marine life.

Contribution to Ecosystem Representation:

- 2,719 ha to CWHvh2 gap in the HEL.
- 194 ha to Lakes.

Land Status:

Timber Harvesting

- Net area is 37 ha and net volume is 22,035

Lands

- URep to BC Parks
- No other active tenures. The UREP (File 5403206) is the only active Land issue within Troup Passage.
- The area does lie within the Heiltsuk Tribal Council Area of Interest.

YORKE ISLAND
Outer Fiordland Ecosection
Land and freshwater 38 ha
Marine waters portion 385 ha

General Description:

- Existing official PAS Study Area

Recreation/Tourism Values:

- Tourism use is high and its potential is very high.
- # 7 recreation priority
- Great interpretive potential.
- However, difficult to land helicopters due to alder.
- There is a single low use anchorage site and marine transportation route to the site.
- Difficult to land boats given rip rap.

Cultural/Heritage Values:

- Very high historic significance as this was the site of

the principle gun deployment protecting Johnstone Strait (WW II).
- There is also a war time military installation cultural site.

Conservation Values:

- This area is important for harbour porpoises and moderately important for killer whales.
- Humpback whales may be present in this location between January and April.
- There are large kelp beds surrounding the island.

Contribution to Ecosystem Representation:

- 38 ha to CWHvm1 gap in the OUF.

Land Status:

- No known conflicts.

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APPENDIX VII: REVISED GOAL 2 STUDY AREA DESCRIPTIONS*

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*The establishment of study areas in the coastal estuaries will not impede access to the drainages beyond.

Note: References for information on coastal wetlands include: Hunter et al., 1985; Remington, 1993; and Leaney and Morris, 1981.

Primarily CONSERVATION

- Barnard Harbour
- Barry Islet
- Bella Coola Estuary
- Bentinck Estuaries
- Clayton Falls
- Clyak Estuary
- Cornwall Estuary
- Genesse Wetland
- Kilbella/Chuckwalla Estuary
- Kimsquit Estuary
- Kingcome Estuary
- Klinaklini Estuary
- Kwatna Estuary
- McMullen Group
- Neechantz/Machmell Wetland
- Nekite Estuary
- Numas Islands
- Phillips Estuary
- Polkinghorn
- Quatlena Estuary
- Seymour Estuary
- Sheemahant Wetland
- Skowquiltz Estuary

- Stafford Estuary
- Wakeman Estuary
- Walkus Lake

BARNARD HARBOUR
Hecate Lowlands Ecosection
Land and freshwater 1,021 ha
Marine waters portion 168 ha

General Description:

- This area encompasses Barnard Harbour and the small associated drainage and contains waterfalls/rapids and mudflats.
- It is an existing BC Parks UREP (est. 1988)

Conservation Values:

- Area is rated as biologically exceptional.
- High fish/wildlife use of this small drainage.
- There are seasonal concentrations of grizzly bear and eagles.

Recreation/Tourism Values:

- Rated high for the following recreation attributes: rarity/scarcity/uniqueness, use/ appreciation and demand - medium for variety.
- Registered boat haven/anchorage and excellent wildlife viewing.
- High fish/wildlife use of this small drainage

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 584 ha to CWHvh2 gap in the HEL
- 473 ha to Mhwh1 gap in the HEL.

Land Status:

Mining

- There is an existing claim - black granite quarry in harbour.

First Nations

- First Nations were formally opposed to mining but may now be supportive.

Lands

- IR 7 (Lot 2230) has been excluded form the boundary.
- Floating fish camp/lodge (seasonal).

BARRY ISLET
Queen Charlotte Strait Ecosections
Land & freshwater 47 ha
Marine waters portion 1,612 ha

General Description:

- Barry Islet is a solitary, wind-swept, grass covered islet.
- It's steep walls are covered in kelp and algae, solt corals, brooding anenome and other life. The islet is also a feeding area for rockfish and other fish species.
- Part of the Queen Charlotte Strait - an ecosection often sited as one of the richest marine habitats on North America's west coast.

Conservation Values:

- Conservation rating is high.
- This area is important for harbour porpoises, Dall's porpoise and Pacific white-sided dolphins, and moderately important for killer whales. Gray whales may be present Mar.-Nov.
- Eagles and marbled murrelets (dispersed over summer) utilize the area, and the entire SA is of medium importance for alcids (common murre), gulls and cormorants (possible glaucous- winged gull colonies), and waterfowl (Nawitte Bank loons).

Corals

- The islet is particularly renowned for large communities of rarely seen pink and white gorgonian corals (the first known identification of this spp. in B.C. was about 20 year ago).

Sealions

- Both breeding and non breeding northern sealions are found at Barry Islet.
- Northern sea lions are rare provincially and globally.

Recreation/Tourism Values:

- Channel is primary link in the Inside Passage Marine Travel Route, and as such is critical for boating utilization.
- Provides anchorage facilities.
- High tourism potential.
- Diving opportunities.
- Two marine transportation routes (one high, one moderate) transect the AOI, and there is an important kayak route through the northern portion of the area (which continues through the Walker-Deserters Group).

Cultural Heritage Values:

- Opportunities for interpreting cultural heritage as well as education and wildlife viewing.

Contribution to Ecosystem Representation:

- 47 ha to CWHvh1 gap in the QCT.

Land Status:

Timber Harvesting

- No conflicts

Aquaculture/MAFF

- High conflicts for aquaculture, medium for wild oysters and marine plants and low for agriculture.

Lands

- No known conflicts.

BELLA COOLA ESTUARY
Kitimat Ranges Ecosection
Land & freshwater 144 ha
Marine waters portion 205 ha

General Description:

Conservation Values:

- Conservation rating is high.
- The Bella Coola Estuary has the highest score in ranking of north coast wetlands for biological and social values.
- The estuary is relatively unmodified except for a wharf in the south and scattered pilings from log handling and storage operations which have since been relocated

Salmon & Grizzly

- Used by large numbers of juvenile salmon, especially pink, but also chum, coho, chinook and cutthroat.
- Grizzly bear are found in this area.

Birds & Fish

- Important wintering waterfowl habitat - also used at other times of the year.
- Frequent records of trumpeter swans, and records of use by red-breasted merganser, western grebe, and great blue heron {blue-listed species}.
- Likely to have resident populations of Vancouver Canada Geese.
- High use by fish.

Endemic Vascular Plants

- Chamisso's Montia, which are found in Bella Coola, are a blue listed species.
- These plants are felt to be imperiled provincially due to their extreme rarity in this province, yet they are widespread globally.

Recreation/Tourism Values:

- There is guided and unguided fishing for steelhead, coho, chinook, and cutthroat

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 125 ha to CWHms2 gap in the KIR.
- 20 ha to the CWHds2 gap in the KIR.

Land Status:

First Nations

- Possible First Nations conflicts

Lands

- Pulpmill/sawmill complex, oil port and liquified natural gas port proposals have been made in past.
- MELP has Sec 12 (Land Act) Planning Reserve and there are 48 ha of Nature Trust Property in this area
- A log handling and storage reserve in area.
- Public wharf and Crown Grant cover around 1/4 of area.
- Regional District is pursuing funding to clean up the estuary.
- Current boundary may cover private land.
- Access to the drainage beyond is not impeded.

BENTINCK ESTUARIES
Northern Pacific Ranges Ecosection
Land & freshwater 245 ha
Marine waters portion 277 ha

General Description:

- Includes Asseek, Ickna, and Taleomey/

Noeick estuaries.

- Highly ranked major coastal estuary.

Conservation Values:

Salmon & Grizzly bear

- Provides good rearing habitat for juvenile salmon.
- Heavily used by grizzly bear.

Waterfowl

- Records of red/blue listed species at these estuaries.
- Important for waterfowl; records of trumpeter swans; expected use by red-breasted merganser, western grebe, great blue heron.

Recreation/Tourism Values:

- Local sport fishing for coho and cutthroat
- There are two medium use anchorages, a medium-high use marine transportation route and several archaeological sites. There is a high use sea kayak campsite.

Cultural Heritage Values:

- To be determined.

Ecosystem Representation:

- 245 ha to CWHms2 gap in the NPR.

Land Status:

Timber

- Roading and harvesting are taking place now.
- The net area is 130 ha, net volume is 59,040
- Timber West, Interfor and Doman have logging operations in this area, and SBFEP operations.
- The area is used extensively for log drops and barge traffic.

Lands

- L 6, 7, 8 are private
- Section 12 - map reserve for log storage on behalf of Ministry of Forests covers most of the southern foreshore
- #6 and 7 have been abandoned by Doman
- IR 3, four winter villages, and a log handling and storage reserve covers part of Aseek estuary area.
- Assek has Nature Trust property and MELP Section 13 (Land Act) Designated Use area.
- MoF Sec 12 reserve T.R., Crown Grant covers major parts of area.
- Access to the drainage beyond is not impeded.

CLAYTON FALLS
Northern Pacific Ranges Ecosection
Land & freshwater 2,030 ha
Marine waters portion 0 ha

General Description:

- Clayton Falls is located SW of Bella Coola.

- Notation of Interest by BC Lands for Protected Area.

Conservation Values:

- Conservation rating is very high.
- Encompasses a rare ecosystem - CWHvm3 (old yellow cedar temperate rainforest); stand represent easternmost extent of yellow cedar.
- Ecosystem with old Cypress, which is rare on the coast due to logging pressure.
- Area is important as a gene pool and for future scientific research and education.

Recreation/Tourism Values:

- To be determined.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

•448 ha to CWHvm3 gap in the NPR

- 162 ha to AT gap in NPR
- 1,421 ha to Mhmm1 gap in NPR

Land Status:

Lands

- R/W has been excluded.

First Nations

- Nuxalk will claim this area is under treaty negotiations.

CLYAK ESTUARY
Northern Pacific Ranges Ecosection
Land & freshwater 275 ha
Marine waters portion 20 ha

General Description:

- Located at the head of Moses Inlet, with a series of wetlands forming the Clyak River Estuary.

- Fragmentation in general area is high, due to logging, roading, and an airstrip.

Conservation Values:

- High ranked major coastal estuary.

Salmon

- Use by juvenile salmon.

Grizzly

- Heavy use by grizzly.

Birds

- Important waterfowl habitat.
- Records of trumpeter swans and western grebes.

- Expected use by great blue heron {blue-listed species}.

Other

- High use by fish.

Recreation/Tourism Values:

- Wildlife viewing opportunities

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 275 ha to CWHvm1 gap in the NPR.

Land Status:

Lands

- The land status conflicts concerning the airstrip, and log storage for Interfor (File # 5400894 and 5400883) have been reconciled, as these areas have been removed from the boundary.
- This area is in map notation as an ecological reserve proposal.

- Access to the daringe beyond is not impeded.

CORNWALL ESTUARY
Kitimat Ranges Ecosection
Land & freshwater 39 ha
Marine waters portion 23 ha

General Description:

Conservation Values:

- Conservation rating is high.
- High seasonal concentrations of black bears. excellent spring and fall forage
- There is a uniquely large estuary for the island
- High waterfowl concentrations - seasonally
- Significant salmon values
- Valley bottom spruce/deveil's club adjacent to estuary

Recreation/Tourism Values:

- To be determined.

Cultural Heritage Values:

- To be determined

Contribution to Ecosystem Representation:

- 39 ha to CWHvm in the KIR.

Land Status:

- Access to the darinage beyond will not be impeded.

GENESSE WETLAND
Northern Pacific Ranges Ecosection
Land and freshwater 120 ha
Marine waters portion 0 ha

General Description:

- Genesse Wetland is located just off Owikeno Lake.
- Creek drains from Walkus Lake (another Goal 2 study area).

Conservation Values:

- Very high bear/salmon ecosystem.
- High value grizzly forage area
- This system provides good rearing habitat for salmon fry.
- Heavy spawning of salmon, and excellent rearing holding capacity.
- The combination fo skunk cabbage wet areas, and spawning makes this area exceptional for grizzly spring and fall fedding and day bedding.
- Area provides deer with winter range (snow inception and thermal cover) as well as spring range (deer use skunk cabbage areas quite heavily).

- This SA is in the CWHms2 for ecosystem representation.

Recreation/Tourism Values:

- To be determined

Cultural Hertage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 103 ha to CWHms2 gap in the NPR.
- 16 ha to Lakes.

Land Status:

Pacific Forest Products Forest license 16847 (chart area).

KILBELLA\CHUCKWALLA ESTUARY
Hecate Lowlands Ecosection
Land and freshwater 276 ha
Marine waters portion 115 ha

General Description:

- Very large complex estuary with several freshwater channels of variable size and depths braiding through the flats
- Fragmentation of larger watershed (not estuary), due to logging activities.
- There are two winter villages, IR 2, as well as log handling and a storage reserve in this area.
- High diversity for estuarine features

- A Crown Grant covers part of this area .

Conservation Values:

- Conservation rating is very high; highly ranked major coastal wetland.

Salmon & Grizzly

- Used by juvenile salmon.
- High use by grizzly bear.

Birds

- Records of trumpeter swans overwintering, and expected use by red-breasted merganser, western grebe, and great blue heron {blue-listed species}.
- Moderate use by waterfowl.

Other

- This is site for eulachon runs and herring spawning.
- High use by fish.

Cultural/Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 276 ha to CWHvm1 gap in the NPR.

Land Status:

- Pacific Forest Products Forest license 16847 Chart.
- Access to the drainage beyond will not be impeded.

KIMSQUIT ESTUARY
Kitimat Ranges Ecosection
Land and freshwater 57 ha
Marine waters portion 75h

General Description:

- Kimsquit Estuary is located at the eastern tip of the Dean Channel.
- MOF has a Section 12 Land Act Reserve

Conservation Values:

- Conservation rating is very high; highly ranked major coastal wetland,

Salmon & Grizzly

- A rearing habitat for large numbers of juvenile salmon.
- Heavily used by grizzly bear.

Birds

- Expected use by trumpeter swans {red-listed}, and expected use by red-breasted merganser, western grebe, great blue heron and Pacific loon {blue-listed species}.
- Wintering waterfowl habitat.
- Likely to have resident populations of Vancouver Canada Geese
- High use by waterfowl.

Recreation/Tourism Values:

- Guided sportfishing for coho and cutthroat. (Potential conflict with grizzly conservation)
- This area is a harbour of refuge and a traditional anchorage.
- Kimsquit Estuary has a traditional beach area, serves as a destination waypoint, has fresh water and is accessible by land.
- There is a medium-high importance marine transportation route.

Cultural Heritage Values:

- There is a winter village in this area.

Contribution to Ecosystem Representation:

- 57 ha to the CWHms2 in the KIR.
- Contributes to gap in estuaries in KIR

Land Status:

Lands

- LoO to Doman Industires Ltd., for log handling. This portion has been excluded from the boundary.

- Access to the drainage beyond will not be impeded.

KINGCOME ESTUARY
Northern Pacific Ranges and Outer Fiordland
Land and freshwater 225 ha
Marine waters portion 41 ha

General Description:

- Variable estuary and fluvial terrace cut through by meandering braided river channels.
- Wetland types are prominent.
- Riparian forests have some variation in seral stages due to inundation).
- There are several winter villages in this area
- Moderate diversity for estuarine features

Conservation Values:

- Conservation rating is high; highly ranked major coastsal estuary.
- An important area for waterfowl, particularly for western grebes, common mergansers and Canada geese. Also a low importance gull area.
- Kingcome River is an important salmon river supporting all species, and all of the shoreline within the SA supports low intensity herring spawning.

Recreation/Tourism Values:

- There is an important marine transportation corridor to the estuary, and a moderate use public dock.

- There is a moderate use moorage site, and the area has moderate use as a sea kayak route.

Cultural Heritage Values:

- A single archaeological site, and an important cultural site (Kingcome Inlet Settlement) also occur within the AOI.

Ecosystem Representation:

- 205 ha to the CWHvm1 in the NPR.
- 20 ha to the CWHvm1 in the OUF.

Land Status:

Lands

- Lot 140, 144, 145, and 147 are private land. These sections have been excluded from the boundary.
- Nature Trust of B.C. is the owner of Lot 141, 142, and 143.
- International Forest Products Ltd. are the registered owners of Lot 146 (except parcel A). This section has been excluded from the boundary.
- IR 7 has been excluded from the boundary.
- Proposed road to Kingcome Estuary will be subject to enhanced referral and review to address impact on conservation values.

KLINAKLINI ESTUARY
Northern Pacific Ranges Ecosection
Land and freshwater 355 ha
Marine waters portion 292 ha

General Description:

-

Conservation Values:

- Conservation values are rated very high; highly ranked major coastal wetland.
- The Klinaklini watershed supports viable populations of coastal black bears, mountain goat, moose, deer, wolf, furbearers

Waterfowl

- High use by waterfowl

Fish

- A large runoff of large winter steelhead spawn in the Klinaklini River (April/May)
- Eulachon spawning area

Grizzly Bears

- The estuary and some of the nearby vegetated alpine and avalanche chutes provide grizzly bear habitat
- Grizzly foraging extensive

Recreation/Tourism Values:

- Low/moderate, relatively inaccessible

Cultural Heritage Values:

- Aboriginal use for fishing and processing eucholon.

Contribution to Ecosystem Representation:

- Contributes to gap in estuaries in the NPR ecosection.
- 355 ha to CWHvm1 gap in the NPR.

Land Status:

Lands

- Lot 25, Lot 26, Lot 36, and Lot 37 are private. These sections have been excluded from the northwest boundary.
- IR 1 has been excluded from boundary.
- Access to the drainage beyond will not be impeded.

KWATNA ESTUARY
Northern Pacific Ranges Ecosection
Land and freshwater 183 ha
Marine waters portion 150 ha

General Description:

- Kwatna is a wide estuary with several meandering fresh-salt water channels and a large tidal flat area surrounding a low rocky hill in the centre of the estuary flat
- There are dry steep, open bedrock surface forested hills above the estuary.
- The north faces above the estuary are quite steep, with several steep stream courses
- IR 4 and several winter villages in this area
- Possibly a moderate diversity of saltmarsh types
- 75 ha were logged in 1950s on both sides at mouth

Conservation Values:

- Conservation rating is very high; highly ranked major coastal wetland.

Salmon

- A rearing habitat for juvenile salmon

Grizzly

- Used by grizzly bear.

Birds

- Records of trumpeter swans overwintering {red-listed}, and expected use by red-breasted merganser, western grebe, great blue heron
- High use by waterfowl.

Recreation/Tourism Values:

- Guided and unguided sportfishing for coho.

Cultural Heritage Values:

- Very high. The area has been extensively excavated and reported by Dr. Hobler of SFU. Materials are in the SFU Arcaeological museum.

Contribution to Ecosystem Representation:

- 183 ha to CWHvm1 gap in NPR

Land Status:

Timber Harvesting

- Forest License 16850 Chart (interfor)..
- File#0215281 for log storage is fully excluded from the SA (mapping may not accurately reflect the exclusion).
- IR#4 is fully excluded (mapping may not accurately reflect the exclusion).
- Access to the drainage beyond will not be impeded.

MCMULLEN GROUP
Hecate Lowlands Ecosection
Land and freshwater 39 ha
Marine waters portion 857 ha

General Description:

- Valuable potential extension to Hakai Recreation Area.
- McMullen Group is a small group of rocky exposed islets, just north of the Goose Group in Hakai Recreation Area.

Conservation Values:

- Conservation rating is high
- Rich marine life.

Sea Otter

- There are important sea otter concentrations in the McMullen Group.
- On May 30/96, Graeme Ellis (DFO pacific Biological Station) and Dr. Jane Watson (highly knowledgable on BC sea otters) counted 2 rafts, totalling 171 animals.
- The habitat in this area (exposed shorelines with nereocystis, macrocystis, red urchins) is very similar to the Goose Group.

Kelp

- 8,345 tonnes total kelp biomass

Recreation/Tourism Values:

- There is a moderate-high use marine transportation route, and a high use sea kayak route from Raymond Passage to Goose Island.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 39 ha to CWHvh2 gaps in the HEL.

Land Status:

- High degree of commercial red sea urcin harvesting (check with DFO)

NEECHANTZ/ MACHMEL
Northern Pacific Ranges Ecosection
Land and freshwater 282 ha
Marine waters portion 0 ha

General Description:

- The Neechantz Wetland begins at the confluence of the Machmell, Genessee and Neechantz Rivers, with

several fresh water channels of variable sizes braiding across the flats.
- This is a deltaic, non-tidal, freshwater wetland.

Conservation Values:

- Conservation rating is high
- Salmonid and Grizzly Bear use.
- Wetland is an important habitat for waterfowl.

Recreation/Tourism Values:

- To be determined.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 255 ha to CWHms2 gap in NPR.
- 27 ha to Lakes.

Land Status:

Timber Harvesting

- Roading and harvesting are taking place now in watershed: PFP-FL A16847

NEKITE ESTUARY
Northern Pacific Ranges Ecosection
Land and freshwater 144 ha
Marine waters portion 121 ha

General Description:

- IR 2 seasonal village
- Log handling and storage reserve cover all of the area

Conservation Values:

- Conservation rating is very high; moderately ranked major coastal wetland.

Salmon

- Used by juvenile salmon.

- An important salmon river that supports all species except coho.
- Most of the coastline supports low intensity herring spawning.

Other

- Records of overwintering trumpeter swans (red-listed).

- Expected use by western grebe (red-listed). Moderate importance for swans, Canada geese, goldeneyes and mallards.
- Average eagle populations, and moderate gull and merganser populations in spring and summer.

Recreation/Tourism Values:

- Guided and unguided sportsfishing for steelhead, cutthroat and coho.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 144 ha to CWHvm1 gap in NPR

Land Status:

- No known conflicts.

NUMAS ISLANDS
Queen Charlotte Strait Ecosection
Land and freshwater 179 ha
Marine waters portion 458 ha

General Description:

- Marine feeding habitat of critical importance to seabirds and cetaceans

Conservation Values:

Seabirds

- 550 pairs of rhinoceros auklets

Endemic Vascular Plants

- Gmelin's sedges, which are found in the Numas Islands, are a blue listed species.
- These plants are imperiled because of rarity provincially, yet they are quite widespread globally.
- This area is very important for marine mammals. The islands have year round medium importance for killer whales and medium importance for humpback whales from May to December.

- The area is ranked important for pacific white-sided dolphins, dall's porpoises, and harbour porpoises.
- The islands are an important area for eagles, and of medium importance for waterfowl (harlequin ducks), alcids (rhinoceros auklets), and shorebirds (black oystercatcher).
- There are medium sized kelp beds on the northern sides of the islands.

Recreation/Tourism Values:

- Numas Islands support an important year round groundfish sport fishery for mainly rockfish and some lingcod.

Cultural Heritage Values:

- Archaeological sites in close proximity.

Contribution to Ecosystem Representation:

- 179 ha to CWHvh1 gaps in the QCT.

Land Status:

- No known conflicts.

PHILLIPS ESTUARY
Northern Pacific Ranges and Outer Fiordland
Land and freshwater 1,608 ha
Marine waters portion 9 ha

General Description:

Conservation Values:

- Conservation rating is high; highly ranked major coastal wetland.

Recreation/Tourism Values:

- To be determined.

Cultural Heritage Values:

- Cultural material found at Phillips Estuary includes subsurface shell middens, a subsistence feature -fish weir, bone, and surface cultural.

Contribution to Ecosystem Representation:

- 1,164 ha to CWHvm1 gap in NPR
- 420 ha to CWHdm gap in OUF.
- 25 ha to lakes.

Land Status:

Lands

- Lot 378 is private land. This section has been excluded from the boundary.
- International Forest Products Ltd. is the registered owner of Lot 379, Block A and Block B. This section has been excluded from the boundary.

POLKINGHORN Outer Fiordland and QCT Ecosections Land and freshwater 149 ha Marine waters portion 321 ha

General Description:

- A group of small islands west of Broughton Islands in Queen Charlotte Sound.

Conservation Values:

- This area is important for harbour porpoises throughout roughly 50% of the SA, and moderately important for killer whales. Humpback whales may be present between January and April.
- Eagles utilize this area, and the entire SA is of medium importance for marbled murrelets.

Recreation/Tourism Values:

- Tourism potential high, present tourism use moderate.
- Sheltered anchorages.

- There is a marine transportation route of moderate importance, which links to a highly important main route. A moderately important anchorage covers a significant portion (40%) of the AOI. There is a single important kayak route along the eastern edge of the AOI, and one highly rated kayak campsite area.

Cultural Heritage Values:

- Rated high.
- High potential for archaeological sites, possibly a burial island.

Contribution to Ecosystem Representation:

- 149 ha in CWHvm1 gaps in the OUF.

Land Status:

- No known conflicts.

QUATLENA ESTUARY
Hecate Lowlands Ecosection
Land and freshwater 43 ha
Marine waters portion 129 ha

General Description:

- The Quatlena Estuary is formed by a series of wetlands located at the head of the Kwatna Inlet.

Conservation Values:

- Conservation rating is high; highly ranked major coastal estuary.

Waterfowl

- The estuary is important for waterfowl.
- Expected use by trumpeter swans overwintering, red-breasted merganser, western grebe, and great blue heron {blue-listed species}.

Recreation/Tourism Values:

- The estuary is used for summer-run steelhead sportfishing.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 43 ha to CWHvh2 gap in HEL.

Land Status:

- Forest License 16850 - Chart Area (Interfor)..

SEYMOUR ESTUARY
Northern Pacific Ranges Ecosection
Land and freshwater 267 ha
Marine waters portion 75 ha

General Description:

Conservation Values:

- Highly ranked major coastal wetland.
- Low importance for various shorebirds, and average importance for bald eagles.
- The salmon bearing river supports moderate runs of coho, pink, and chum salmon.
- Approximately half of the AOI shoreline supports low intensity herring spawn areas.

Recreation/Tourism Values:

- The area is ranked as an important wildlife viewing area for grizzlies

Cultural Heritage Values:

- There is a single archaeological site.
- Cultural material found at Seymour Estuary a shell middens, and surface cultural material.

Contribution to Ecosystem Representation:

- 267 ha to CWHvm1 gap in NPR.

Land Status:

- SA includes a portion of Recration Site 900-5973.
- IR#12 is adjacent.

SHEEMAHANT WETLAND
Northern Pacific Ranges Ecosection
Land and freshwater 484 ha
Marine waters portion 0 ha

General Description:

- There is a winter village
- A log handling and storage reserve covers 1/4 of the estuary area.

Conservation Values:

- Conservation rating is high

Salmon & Grizzly

- Sockeye spawn in the narrows of Owikeno Lake.
- Heavy use by grizzly.

Birds

- There are records of trumpeter swans overwintering (red-listed).

Recreation/Tourism Values:

- Guided sportsfishing takes place

Cultural Heritage Values:

- Cultural material found at Sheemahant Wetland includes a shell middens, and surface cultural material

Contribution to Ecosystem Representation:

- 226 ha to CWHms2 gap in the NPR.
- 258 ha to Lakes.

Land Status:

- Pacific Forest Products - Forest License 16847 Chart.

SKOWQUILTZ ESTUARY

Kitimat Ranges Ecosection
Land and freshwater 27 ha
Marine waters portion 38 ha

General Description:

- Located off the Dean Channel, this biologically rich estuary has high recreation and wilderness values.
- IR 3 and winter village at this estuary.

Conservation Values:

- Conservation rating is high

Waterfowl

- Records of trumpeter swans overwintering (red-listed)
- Expected use by red-breasted merganser, great blue heron and Pacific loon (blue-listed).

Recreation/Tourism Values:

- To be determined.

Cultural Heritage Values:

- Possible pictographs (to be confirmed).

Contribution to Ecosystem Representation:

- 27 ha to CWHms2 gap in KIR.

Land Status:

- A log handling and storge reserve covers 6% of the area
- Small Business Administration Area (A35723F).

STAFFORD ESTUARY
Northern Pacific Ranges Ecosection
Land and freshwater 538 ha
Marine waters portion 89 ha

General Description:

- Notation of Interest by Fish and Wildlife Branch.

Conservation Values:

- Conservation rating is high for fisheries, and medium for wildlife since it is an incomplete watershed. (BC Environment).
- There is a sympatric rainbow/Dolly Varden population.
- It is suspected that a grizzly bear population uses the valley on a seasonal basis.
- There are rare plants species are located near the proposed area; smooth willowherb, and Payson's sedge.
- Moderate use by waterfowl.
- Stafford River watershed - forest is unlogged and therefore 100% natural.

Recreation/Tourism Values:

- There are low use anchorages in Fraser and McBride Bays, and moderate use transportation routes to these areas.

Cultural Heritage Values:

- There is an important cultural site in McBride Bay in the form of a float house.

Contribution to Ecosystem Representation:

- 538 ha to CWHvm1 gap in the NPR

Land Status:

Tourism

- One guide outfitter.

Lands

- Western Forest Products is the registered owner of Lot 347. This section has been excluded from the boundary.
- File # 1403401, and 1403402, Licence of Occupation, by Shuart, Glenn, William. This portion has been excluded from the boundary.
- File # 14077101, Licence of Occupation by Western Forest Products, for log handling/storage. This portion has been excluded from boundary.

WAKEMAN ESTUARY
Northern Pacific Ranges and Outer Fiordland
Land and freshwater 194 ha
Marine waters portion 125 ha

General Description:

- The Wakeman River is a big, glacial-influenced system, approximately 50 km long, that passes through the estuary and drains into the head of Wakeman sound.

Conservation Values:

- Conservation rating is high.

Salmon

- Pink, chum, coho, steelhead and chinook use this estuary and river.
- An important salmon river supports all species, and all of the shoreline in the SA supports moderate intensity herring spawning.

Waterfowl

- High use by waterfowl. Moderate importance for orcas, pacific white-sided dolphins and dall's porpoises just outside the SA in deeper waters. No waterfowl use noted.

Recreation/Tourism Values:

- Sportsfishing occurs primarily in the lower 20 km of the river's mainstem and two large tributaries.
- There is a single low use anchorage, and a moderate use marine transportation route into the estuary.
- There is a single marina at the Wakeman fishing camp, and MOF has rated the area important for grizzly bear viewing.

Cultural Heritage Values:

- To be determined.

Contribution to Ecosystem Representation:

- 104 ha to CWHvm1 gap in NPR

- 90 ha to CWHvm1 gap in OUF

Land Status:

Lands

- Lot 1616, Block B has an active lease (Interfor Ltd.) until 2002/10/23, for log handling and storage. This section has been removed from the proposed boundary.
- Boundary excludes SUP 3594.
- IR #* is adjacent.

WALKUS LAKE
Northern Pacific Ranges Ecosection
Land and freshwater 895 ha
Marine waters portion 0 ha

General Description:

- Small lake in a pocket of intact old growth forest (small stand of large Douglas fir at east end of lake) within heavily harvested area.

Conservation Values:

- Conservation rating is high.

Grizzly

- Heavy use by grizzly
- The south side of the lake has an ancient grizzly bear trail.
- Walkus Lake is recognized by the Wildlife Branch as an important denning area for grizzly bear.

Recreation/Tourism Values:

- High density of bear in ancient forests limits tourism potential.
- Trout fishing opportunities at this lake.

Cultural Heritage Values:

- Very high First Nations values - is the place in the legend about where the loon got its necklace.
- Cultural material found at Walkus Lake includes a subsistence feature and a modified tree.

Contribution to Ecosystem Representation:

- 447 ha to CWHms2 gap in NPR.
- 197 ha in MHmm2 gaps in the NPR.
- 143 ha in the CWHws2 in the NPR.
- 107 ha to Lakes.

Land Status:

First Nations

- Walkus Lake is a MOF First Nations Deferral area.
- An agreement is being sought between MOF, Pacific Forest Products and the Owikeno.

[Central Coast Reports]

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